東京防災

DISASTER PREPAREDNESS TOKYO

LET'S GET PREPARED

TOKYO
METROPOLITAN
GOVERNMENT

DISASTER PREPAREDNESS TOKYO

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LET'S GET PREPARED

It is predicted that
there is a 70 percent possibility
of an earthquake
directly hitting Tokyo
within the next 30 years.
Are you prepared?

Let's Get Prepared.

What if an earthquake hits Tokyo now? What will you do in this instant when our city undergoes a drastic change? If you are at home; if you are in the subway; if it's the middle of winter; if it's in the middle of the night; if you are alone; if you are with someone who needs to be protected... What will you do?

Take this time to imagine the situation; to gain proper knowledge; to prepare stockpiles; to discuss what to do with your family and neighbors... Each effort you take to prepare will help protect you. We can fight disasters. So, let's get prepared and do everything to protect ourselves.

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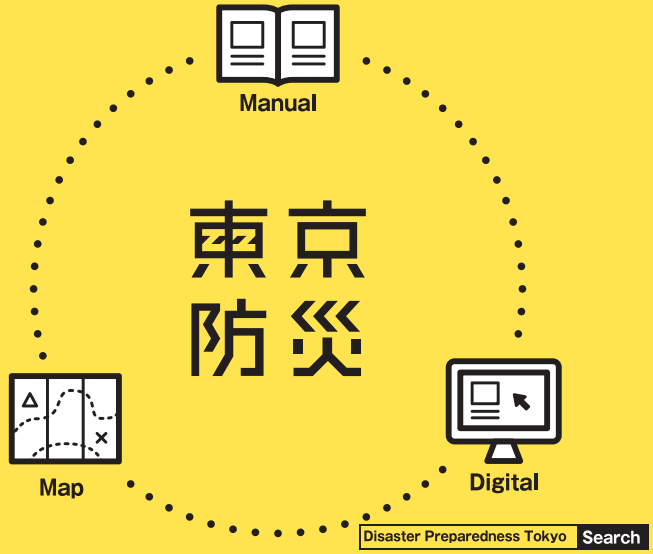
What is “Disaster Preparedness Tokyo”?

Various disaster risks lurk in Tokyo. “Disaster Preparedness Tokyo” is a Tokyo-style disaster preparedness manual that is tailored to the various local features of Tokyo, its urban structure, and the lifestyles of its residents. This manual does not just provide you with knowledge of disaster preparedness, but also contains many specific disaster preparedness actions you can start taking immediately. Use this along with the digital version and the Tokyo Preparedness Map to protect yourself from a disaster.



Bosai the Rhino

The Disaster Preparedness Tokyo character is Bosai the Rhino. “Bosai” is Japanese for disaster preparedness and its second syllable, “sai,” has the same sound as the word for rhinoceros. Bosai the Rhino is a 3-year-old rhinoceros born and raised in Tokyo. He is a very curious little guy, but is easily frightened. He’ s very interested in disaster preparedness and finds any kind of disaster prevention action to be a piece of cake. His favorite action is “hiding under a desk,” and his favorite phrase is “Let’ s get prepared!”

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This original manga comic vividly describes how Tokyo would be like just before and immediately after a major earthquake. Imagine yourself in these situations and take actions to be prepared.

“Let’s Prepare Now” Symbol Mark: Do Now

In this manual we have added the “Do Now” mark to pages introducing disaster preparedness actions that can be implemented right away. Make it a point to first confirm the contents of pages containing this mark and carry out those actions. Here, we list 10 particularly important actions to take. Let's prepare now!

☐ **Start stockpiling**

→ p. 85

☐ **Prepare an emergency bag**

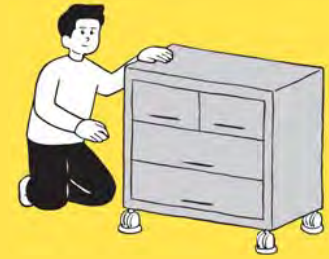
→ p. 90

☐ **Keep valuables together**

→ p. 91

☐ **Confirm the safety of your rooms**

→ p. 95



☐ **Prevent furniture, etc. from falling over**

→ pp. 100, 102

☐ **Check for seismic resistance**

→ p. 107

☐ **Confirm where to evacuate**

→ p. 115

☐ **Hold a family meeting**

→ p. 122

☐ **Sign up for disaster information services**

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☐ **Participate in fire and disaster drills**

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Simulation of a Major Earthquake

Suppose an earthquake of an unprecedented scale directly hits Tokyo. What specific actions should you take at that very moment? This chapter provides simulations of possible dangers and appropriate actions you should take from the moment an earthquake occurs to your evacuation and reconstruction of your life. Now imagine yourself in these situations.

The Moment an Earthquake Strikes

Making the right decision is hard at the onset of an earthquake

Among survivors of major earthquakes, there are some who say that the tremor fi rst felt like a plane had crashed nearby, a factory had exploded, or a volcano had erupted. In such a sudden situation, you fi nd it diffi cult to move or think, and it's hard to make an appropriate decision. This makes it important to imagine what you should do. Prepare in advance by talking with your family, participating in fi re drills and disaster drills, and other ways.

First, protect yourself

In a strong earthquake, you could be injured or killed if you are trapped under furniture or hit in the head by falling objects such as glass from a broken window. While being careful of what is happening around you, you should move quickly to a place where you will be protected from falling objects or furniture and other heavy items toppling over or sliding into you. Give top priority to protecting yourself and your family. (Self-help)

Immediately after the Earthquake

Wait until the tremor subsides

Don't rush out or you could be injured by falling objects, things toppling over or broken glass. Even after the shaking subsides, be careful not to be injured by scattered glass, broken ceramic objects, and other hazardous objects.

Check for fire hazards

If you are using an open flame, stay calm and turn it off after the shaking subsides. If a fire breaks out, take initial measures to put it out.

Details → p. 188

Secure an exit

After the shaking subsides, open the room's window, door, and the front door to secure a way out to allow you to evacuate at any time.

Stay clear of glass or walls

If you are outdoors, you could be injured by falling roof tiles or broken glass, or be trapped under a collapsed concrete wall.

Dangers at Home

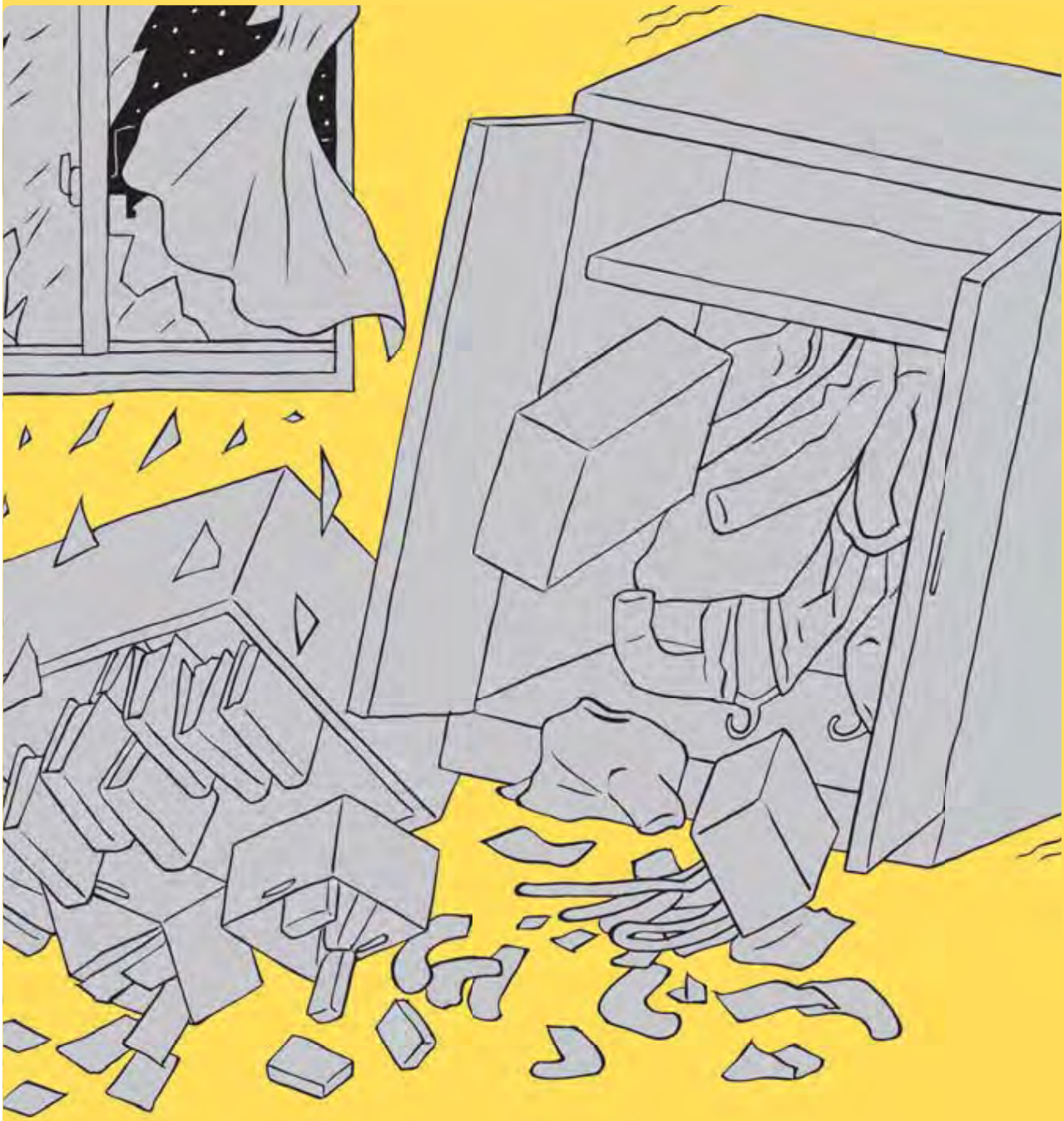
Living room and kitchen

If you are in the living room, you must be careful about being trapped under tall furniture that has toppled over, or injured by broken glass from windows or lighting fixtures. If you feel a tremor, take cover in a place where you will be protected from falling objects or furniture and other heavy items toppling over or sliding into you. You should also watch out for things like large, heavy kitchen appliances such as refrigerators and microwave ovens, as well as items flying out of shelves.

Once the tremor subsides, begin moving, wearing footgear like thick-soled slippers to protect your feet. Secure an exit by opening the door. If you were cooking, first protect yourself, and then after the shaking stops, calmly turn off the flame.

Bedroom

Protect your head with items such as a pillow or bed quilt to avoid being directly hit by broken window glass or falling ceiling lights, and move to a place where floor lamps or dressing tables will not topple over on you. If you make it a habit to put your glasses in an eyeglass case when you go to sleep, this can prevent them from breaking and throwing you into a panic.



After the tremor subsides, put on thick-soled slippers and open the door to secure an exit. Have a flashlight ready for a possible power failure, so that you can move safely even in the dark. Emergency lights that automatically turn on in the event of a blackout are available at stores, so getting one for your bedroom might be a good idea.

Second floor

The first floor of an old structure could collapse and crush you, so don't rush to the first floor. If you are in a building that does not meet the earthquake resistance standards, decide whether you should escape outside according to the situation.

Details → p. 106

Toilet

You might get trapped inside, so open the door when you feel a tremor. If possible, move to a safer place, such as the hallway or front entrance, so that you can quickly evacuate.

Bathroom

The bathroom is a place where you can easily get injured because you aren't wearing any clothing to protect you. Cover your head with a washing basin or something to protect yourself from the shattered glass of the mirror or light bulb, and quickly get out of the bathroom and move to a safe place.

Shards of glass and other dangerous items on the floor

If you step on shattered glass, broken pieces of ceramic or other materials on the floor, you could be injured and become unable to walk. Put on thick-soled slippers and move to a safer place.

If trapped

If you are trapped inside a room or unable to move, don't keep on shouting as this could exhaust you and endanger your life. Instead, make large noises by, for instance, using something solid to hit the door or walls to let others realize that you are in the room.

Dangers Away from Home

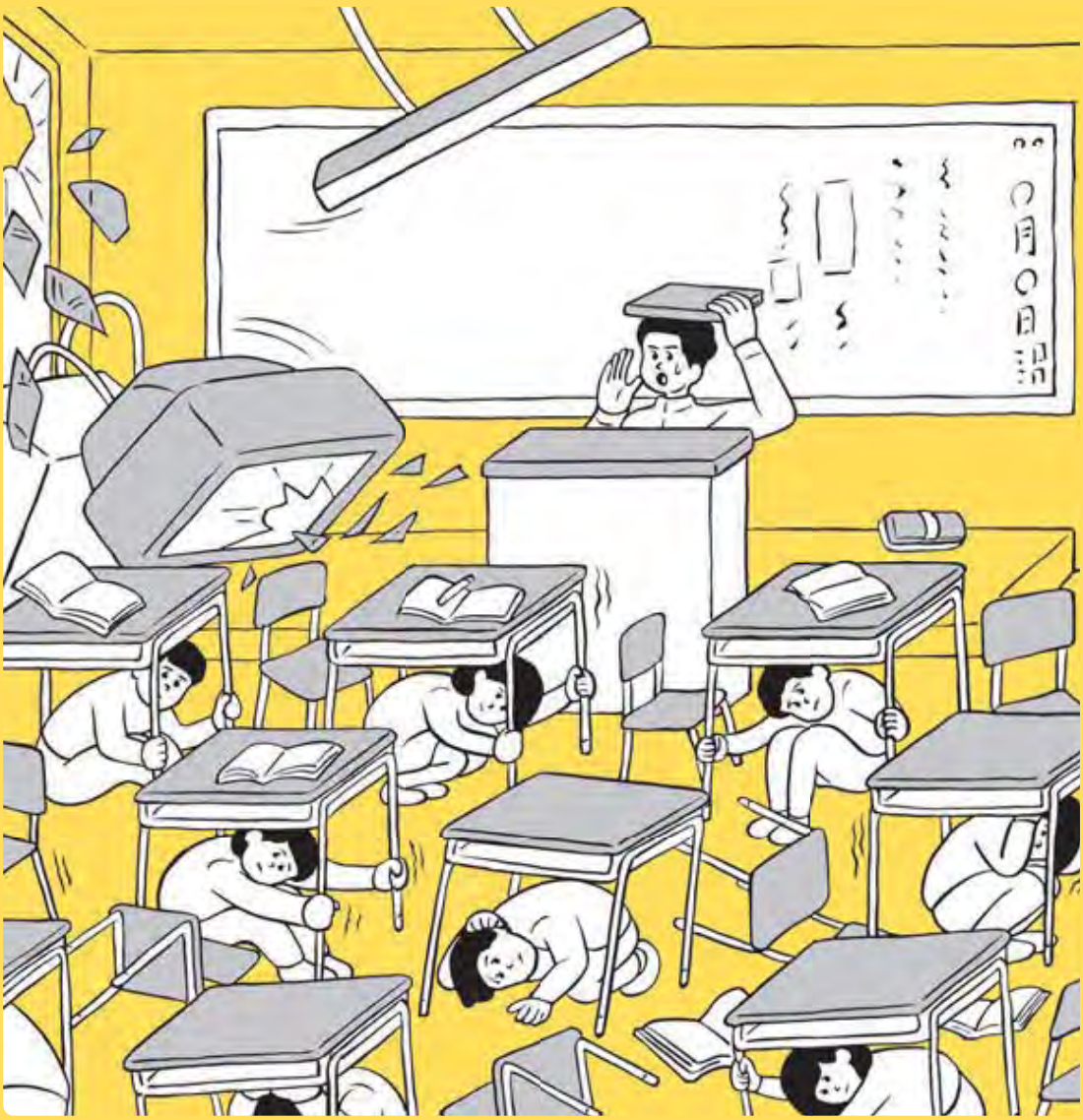
At the office

Copy machines and other office furnishings on casters that have not been locked can move around the room in an unpredictable manner. You could be severely injured if you are hit by one. You could even be killed if you are hit in the head by objects such as shards of broken glass. While being careful of falling cabinets and shattered glass, you need to move to a safe place to protect yourself from falling objects or furniture and other heavy items toppling over or sliding into you.

Once the shaking has subsided and you are ready to evacuate, be sure to use the stairs because elevators could shut down from aftershocks and power failures. High-rise buildings shake for a longer period of time, and the higher you are in a building, the more pronounced the shaking—so much so that you may not be able to remain standing. Quickly find a safe place to take cover and wait for the shaking to stop.

Business and shopping districts

While protecting yourself from falling objects and debris, and watching out for collapsing buildings, move to a safe place such as a park. If you are unable to flee to an open area, take refuge in a relatively new, reinforced concrete building that is seismic resistant (see page 108). One of the scariest things that can happen in a crowd is the eruption of panic. Remain calm, especially in areas where a lot of people are gathered.



Schools

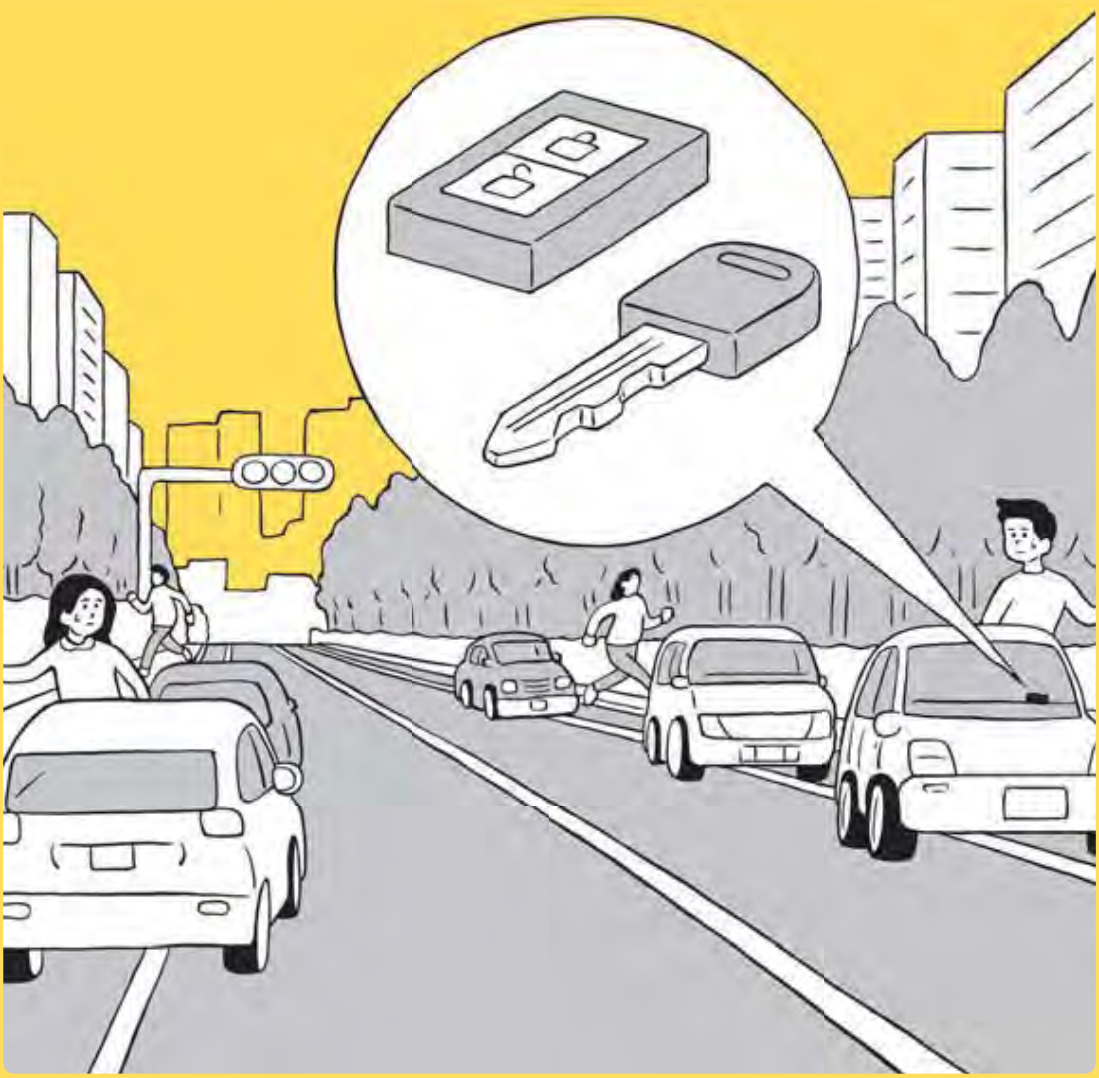
To protect yourself from flying shards of window glass and falling lighting fixtures in the classroom, move away from windows, take cover under a desk, hold on to the desk's legs, and wait until the shaking subsides. If you're in the hall, quickly move away from windows, and on the stairs, grab hold of the railing to avoid losing your balance and falling. When the shaking stops, follow the instructions of the teachers and staff.

Train stations

Protect yourself from falling objects and move to the nearest column so you don't fall off the platform. If the platform is too crowded to move around, crouch down and wait for the shaking to subside. In subway stations, there is the danger of panic breaking out with people rushing to get above ground. Stay on the platform and never go on to the tracks. Follow the instructions of the station staff once the shaking has stopped.

Inside the train

Since trains will make an emergency stop when strong shaking is detected, you could bump into someone or fall down. If you are seated, use your bag or something similar to protect your head. If standing, protect yourself by crouching to the ground. In a crowded train, firmly grab a handrail or strap, and keep your feet firmly planted on the ground so you don't fall over. Follow the instructions of the train crew once the shaking has ended.



In the car

Suddenly lowering your speed could cause a collision. Turn on your hazard lights and gradually slow down. Stop your car on the left side of the road, turn off the engine, and wait for the shaking to stop. Move to a parking lot or open area if possible. When evacuating, leave your keys/smart keys in the car, and do not lock the car doors, so that your car can be moved to let emergency vehicles pass. Leave a note with your contact information inside the car, and take any valuables and your car registration along with you when you go.

Expressways

To avoid colliding with other vehicles, gradually reduce speed and bring the car to a stop on the left side of the road. There's the possibility that the expressway will be closed. Confirm the situation over your car radio or other means.

Tunnels

As there is the danger of ceiling or wall collapse, if you are able to see the tunnel exit ahead, leave the tunnel at a reduced speed. If you are in a very long tunnel, pull over to the left hand side and stop the car. Leave the keys in the car and evacuate from the tunnel using the emergency exit.

Bridges and overpasses

Since old bridges could collapse, if you were about to finish crossing the bridge, reduce your speed and complete the crossing. Since every bridge and overpass shakes in a different way, gradually slow down, pull over to the left side of the road, and stop the car.

Traffic restrictions on disaster response routes

Disaster response routes are roads designated for the smooth passage of emergency vehicles directly following an earthquake. Become familiar with traffic restrictions that will take effect when a major earthquake strikes.

Details → p. 280

Department stores, supermarkets, convenience stores

At department stores and supermarkets, watch out for items scattered across the floor and broken product displays, and move near a stairway landing or support column. In a convenience store, use a shopping basket, bag, or other item to protect yourself from falling objects.

Theaters, halls, stadiums

In facilities where a great number of people gather such as theaters, halls, and stadiums, do not rush toward the emergency exit or stairs, but listen to the public address system and follow instructions given by the staff.

Underground shopping areas

You could be injured if power failure causes the crowd to panic and stampede toward the emergency exit. Remain calm and protect yourself from falling objects. Wait near a column or wall until the shaking subsides.

Airports

Even in the event a major earthquake directly strikes Tokyo, airport terminals are not expected to sustain serious damages such as building collapse. However, you should still be prepared to protect yourself from falling objects such as glass and ceiling components.

High-rise buildings

The higher the floor, the stronger the shaking will be. If you are a visitor in the building, remain in a public area such as the elevator hall, crouch close to the ground, and listen for instructions over the public address system.

Details → p. 240

Elevators

If you are in an elevator and feel an earthquake, press the button for every floor and get off on the first floor the elevator stops at. If you become trapped, use the intercom button to call for assistance.

Mountainous areas

As there is the danger of being buried alive by a landslide in mountainous areas, you should immediately move away from slopes and cliffs. Also be aware that events such as aftershocks and rainfall increase the risk of sediment disasters.

Details → p. 152

Islands and coastal areas

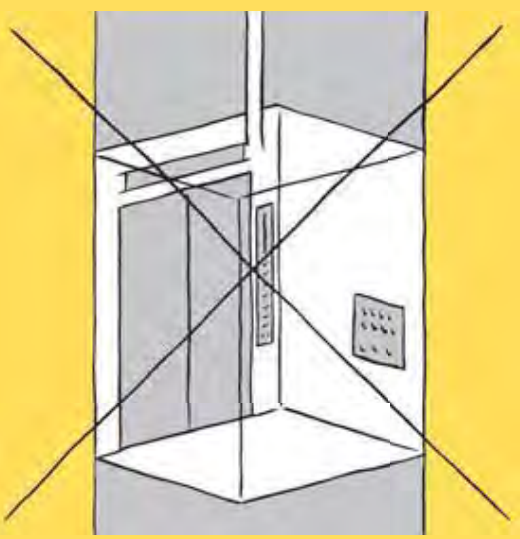
At the earliest, a large tsunami could reach the coastline within minutes. Call out to those around you and promptly move to higher ground. If there is no higher ground in the area, evacuate to a location such as a tsunami evacuation tower.

Things Not to Do When an Earthquake Occurs

Do not light a fire as there is the danger of igniting natural gas, causing an explosion.

Do not reset your circuit breaker to restore the flow of electricity as it could start a fire.

Do not touch light switches as there is the danger of sparking a fire or explosion.



Do not use elevators as there is the danger of getting trapped inside.

Do not use the telephone for non-essential, non-emergency calls directly following an earthquake as this could overload telephone lines.

Do not walk barefoot indoors as you could be injured from broken glass and other debris.

Do not engage in rescue activities alone. To reduce the risk of injury, work with several people when attempting to rescue others.

Do not use a car to evacuate as it may impede the passage of emergency vehicles.

Evacuation Flow Chart

Confirm the local situation (e.g. fires, evacuation orders)

Danger of fire makes it impossible to go to the temporary evacuation area

Danger of fire. Instructions given to evacuate.

What to wear when evacuating
- Helmet or protective hood
- Clothing that is easy to move in
- Comfortable shoes with thick soles
- Gloves

Head toward the temporary evacuation area (Elementary and junior high schools, neighborhood park)

Danger of fire. The temporary evacuation area is in danger.

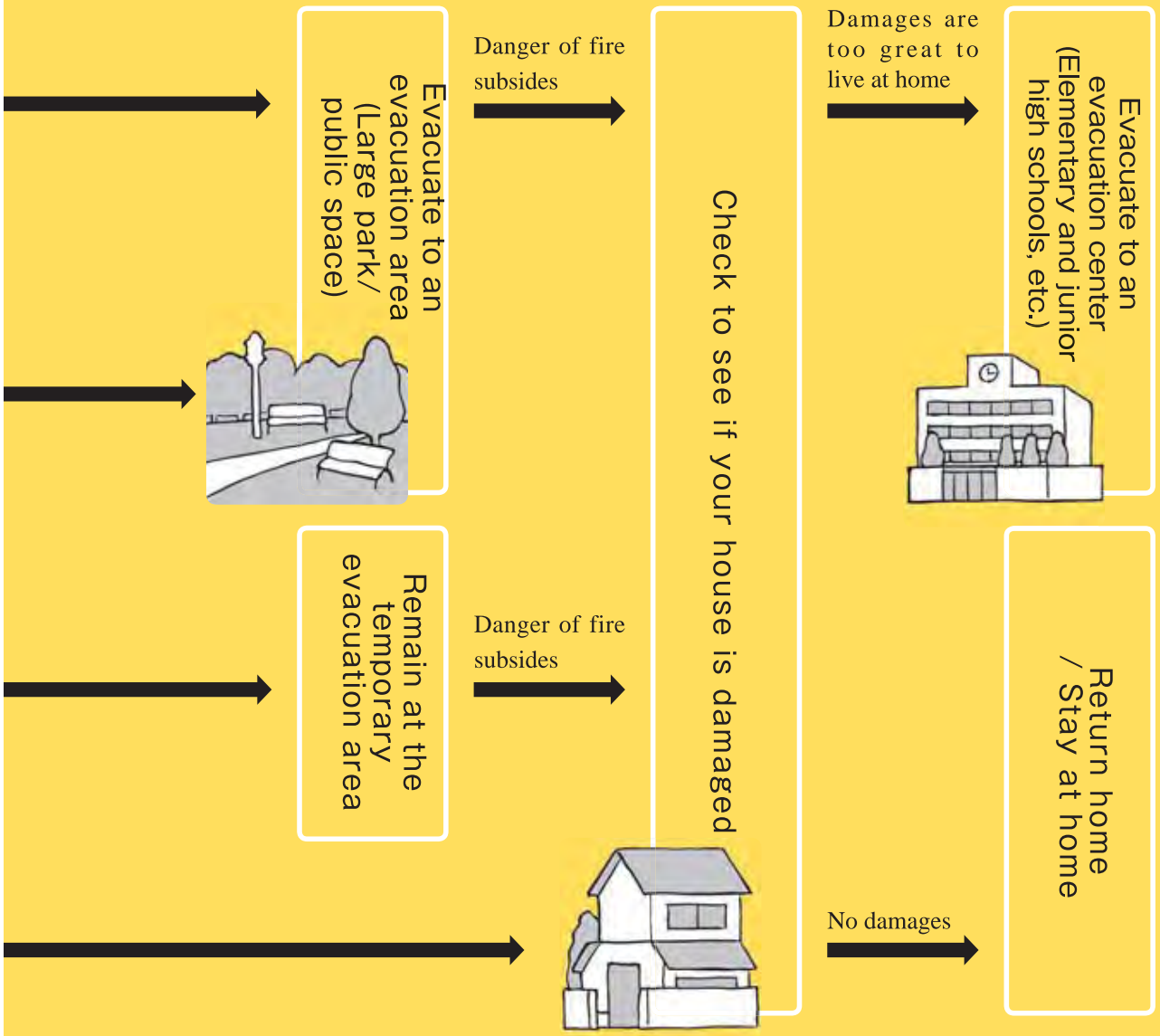
No danger of fire. The temporary evacuation area is safe.

No danger

The right time to evacuate

Keep in mind that your decision on evacuation could be a matter of life or death. Don't rely on others to make the decision on whether or not to evacuate, but gather information from the radio, TV, and public authorities, and based on information that you have confirmed with your own eyes and ears, decide how to act using the above flow chart as reference.

*The following flow chart is an example of a two-stage evacuation. As the method of evacuation will differ by municipality, please inquire at your local municipal office.


Evacuate to an evacuation area (Large park/ public space)
Danger of fire subsides
Check to see if your house is damaged
Damages are too great to live at home
Evacuate to an evacuation center (Elementary and junior high schools, etc.)
Remain at the temporary evacuation area
Danger of fire subsides
No damages
Return home / Stay at home

If your home is safe, try to stay at home. If your family members have been separated, leave a memo at your home, use the disaster message services provided by telephone companies, or other means of communication to set up a meeting place.

Decision to Evacuate

Gather correct information

After the shaking has stopped, you could be endangered if you act according to the wrong information. Before making a move, you need to gather proper information. Use a battery-powered (or rechargeable) radio that will work even if there's a power failure, TV, smartphone radio/TV, websites of the fire department and public authorities, and other reliable sources to gather correct information.

Details → p. 270

Use SNS

SNS such as Twitter and Facebook are valuable sources of information. However, during an emergency, false rumors and information could also spread through these sites. Don't simply believe such rumors. Make it a point to gather correct information.

Confirm the safety of your family

When a disaster breaks out, people are too preoccupied with protecting their own lives, and could fail to realize that their own hands and feet are bleeding or that someone around them is hurt. When the shaking stops, family members who are together should check among themselves that they are not hurt and that the house is not in danger.

Confirm the situation inside and outside the home

After confirming the situation of the members of your family who are with you, check the inside of the house. Confirm that all possible sources of fire have been turned off and that there is an evacuation route. While listening to information over the radio and other media, visually inspect the situation around you.

Indiscreet actions are dangerous

Rushing out of your house in a panic puts you at risk of getting hurt by a falling object. Stay calm and first confirm the safety of your family and home. And after doing so, confirm the situation around you with your own eyes and ears, such as if there are any dangerous objects or buildings, or an outbreak of fire.

Confirm the safety of neighbors

After confirming your family's safety, direct your attention to your neighbors. Check to see if anyone has been enclosed, entrapped, or hurt, and whether there is anyone who needs help in evacuating. In times of emergency, it's important to help one another.

If you're away from home, stay where you are if it is safe

Immediately after an earthquake, roads and the areas around stations become very crowded, and there's also the risk of being hurt or losing your life in secondary disasters such as the outbreak of a large-scale fire or building collapse. If the safety of your company or school has been confirmed, do not immediately leave for home, but stay and wait and see how the situation progresses. Discuss beforehand with your family about how to contact each other and what actions to take immediately after an earthquake.

What to Do before Evacuating

Turn off possible sources of fire

In the Great Hanshin-Awaji Earthquake, about 10 percent of deaths were due to fire. This shows how important first response fire extinguishing efforts are. If you discover a fire, and it is still small, use a fire extinguisher or water to put it out. But in conducting such activities, remember that your safety comes first. If the situation seems dangerous, such as with flames reaching the ceiling, stop trying to extinguish the fire and evacuate the area.

Details → p. 188

Turn off the circuit breakers

If one of the household items that have fallen over is an electrical appliance that has its switch on, it could cause a fire when power is restored.

Close the main gas valve

If the gas pipe or gas appliances are broken, a gas leak could cause an explosion when gas is restored.

Leave a memo

When evacuating your home, leave a memo with relevant information such as your safety and that of your family and where you have evacuated to, and lock your door when you leave.

Using message boards and SNS

Prepare multiple means for contact under the assumption that phones will not work. SNS will be useful, too.

Details → p. 128

Important Points for Safe Evacuation

Be careful about panic in crowds

In crowded areas, actions such as suddenly running have the danger of causing a panic and resulting in accidents. In order to prevent mass panic through the spread of false rumors and information, take care to act in consideration of those around you.

Move along the wall in underground spaces

Underground shopping areas during a power outage are one of the places at a high risk of mass panic. As underground shopping areas have emergency exits located every 60 meters, do not join everyone in rushing to one emergency exit, but find another one close to you by walking along the wall.

Evacuating from the apartment veranda

Verandas and balconies have panels separating them from the unit next door. These can be broken through during an emergency such as the outbreak of a fire, to allow escape to the unit next door. There are also evacuation hatches on the floor equipped with ladders to escape to the unit below.

Escape from smoke in a fire

Smoke from a fire can be life threatening. Try not to inhale the smoke when escaping by covering your mouth and nose with something like a handkerchief and crouching down as low as possible. If you are unable to see ahead because of the smoke, follow the wall to escape.

Before a tsunami reaches the river

Concerns about tsunamis are not just limited to areas near the ocean. Tsunamis also move upstream in rivers. Evacuate immediately in a direction at a right angle from the river.

Know where the tsunami evacuation sites are

If you are near the ocean at the time of an earthquake, immediately move to nearby higher ground or a tsunami evacuation building. If there are none, move to a higher building. At beaches with lifeguards, follow their instructions and evacuate.

Protect yourself from falling objects

In residential areas you could be hurt or killed by falling objects such as roof tiles, the outdoor units of air conditioners, and planter boxes. In shopping and office districts, be cautious of falling signboards, neon signs, and shards of glass.

Don’t touch power lines

Electricity could be flowing through broken or sagging power lines, posing the danger of electrocution. Do not go near such lines and never touch one. The same follows if trees or signs are touching the power line.

Buildings with cracks are dangerous

You could be hurt or killed by sections of the outer wall or tiles falling from buildings with cracks. If the pillars or earthquake-resistant walls, which form the basic structure of the building, are cracked, the building could collapse. Do not go near such buildings.

What to be careful of when evacuating at night

Because of low visibility when evacuating at night, there are the risks of stumbling or falling into roadside ditches. Be sure to take particular cautions, such as using wide roads. Use a flashlight when evacuating at night during a power failure, and move carefully while visually confirming the situation.

What to be careful of when evacuating during the winter

Evacuation during the cold winter season could affect your health. It is important to take sufficient measures against the cold to maintain your health. The use of space heaters in the wintertime also has the danger of causing fires. Evacuate while being careful of fires.

Helping Each Other

Helping each other

In the event of a major disaster such as an earthquake directly hitting the capital, the full efforts of the residents are important to overcome the situation. Don't just think about yourself or your family, but cooperate with those around you and help as many people as possible. This concept of helping each other (mutual help) will help mitigate the damage of the earthquake.

Don’t hesitate to request cooperation

If a person who has collapsed doesn’t respond to you, request cooperation from those around you by calling for help in a loud voice. If there is an AED (automated external defibrillator) nearby, ask for someone to bring it.

Details → p. 176

Tips to helping each other

If you discover someone trapped under a pillar or beam, ask for the cooperation of others around you to help rescue him. Confirm whether he is still conscious, and if so, it’s important to encourage him. Using tools like a car jack could be useful for rescue efforts.

Necessity of first-aid

In a large disaster, many people get injured, but it could be imagined that with difficulties in passing through roads, the arrival of ambulances will be delayed and may not be in time to provide medical assistance. Learn how to treat minor injuries.

Details → pp. 178-187

Staying at Home

Recommending that you stay at home

If you are able to continue living at home, it is recommended that you do not evacuate to a shelter but stay at home. Life at an evacuation center negatively affects the health of some people due to reasons such as changes to their environment. Before an earthquake strikes, it would be important to retrofit your home against earthquakes, always keep a stock of necessary goods such as water and food, and be prepared to stay at home to all possible extent.

Alternatives to gas, electricity and water

It will be reassuring to have alternatives to lifelines prepared. Have a portable gas cooking stove to take the place of gas, and battery-operated headlamps to substitute for lights. For water, always have a lot of water, such as bottled water, and confirm where the nearby water supply point is located.

Preparations for food and daily essentials

The Tokyo Metropolitan Government has designated November 19 as "Stockpiling Day." If you always maintain extra supplies of food and daily essentials and consume this "daily stockpile" in your everyday lives, it would be easy to continue having an emergency stockpile of goods at home.

Details → pp. 85-87

Use of the sewer

Confirm if there is any sewer backflow and if your home's sewage facilities are broken or not. If the sewer system cannot be used with, for instance, sewage overflowing into the streets, use the portable emergency toilet in your stockpile or toilets prepared by the authorities.

Evacuation Center

What is an evacuation center?

An evacuation center is a place that temporarily takes in and protects people who cannot continue to live in their homes. The Tokyo Metropolitan Government has about 3,000 evacuation centers comprising schools, community centers and other public facilities, and about 1,200 secondary evacuation centers (welfare evacuation centers) that accept people who would have difficulty living in a regular emergency shelter and need special care.

Process of opening an evacuation center (example)

The following is an example of the process taken to open an evacuation center. Normally, the facility is unlocked by the facility's manager and preparations are begun for its opening. However, at the onset of a disaster, the manager could be late in arriving because he himself was caught up in the disaster. It could thus be possible that the evacuees themselves have to prepare for the opening of the shelter.

❶ Preparation to receive evacuees

The lock is opened, and preparations to receive evacuees begin. Confirmation of safety within and around the facility is made, such as confirming firefighting facilities and whether a means of communication can be secured.

❷ Preparing the layout

Discussions are held on what to install where, and matters such as the layout of the living space. An environment where people can live is prepared.

❸ Establishing a reception desk

Evacuees are guided from the temporary evacuation area to the evacuation center, and registration begins. A name list is prepared to grasp the situation of the local victims of the disaster, including the evacuees and those needing care.

Guide to Evacuation Life

Rules and manners at the evacuation center

Evacuees should uphold the rules of life at an evacuation center and help each other by sharing duties to the extent possible. Entering or scrutinizing the living space of a fellow evacuee, speaking in a loud voice, and smoking in non-designated areas go against manners. Consideration toward those who need care is also necessary at an evacuation center.

After arriving at the evacuation center (example)

The following is an example of what evacuees do after arriving at the evacuation center. Please note that the process and rules differ from shelter to shelter. It is important to uphold the rules in evacuation center operation and life. For evacuees to help each other and cooperate is indispensable.

❶ Giving your contact information

After arriving at the evacuation center, give your address, name, and contact information, and you will be grouped with neighbors or by neighborhood association. Evacuees who are stranded commuters or others having difficulty returning home give this information.

❷ Confirming the safety of family members, etc.

Confirm the safety of family members and neighbors. So that those with hearing impairments can also understand the information, write out the information on cardboard, etc.

❸ Role sharing

Carry out the duties allotted to you such as helping out at the registration desk or cooking. There are many things that need to be done by cooperating with each other.

The Dos and Don'ts at an Evacuation Center

Maintain privacy

Each residential space is the same as a house. Be sure to uphold each other's privacy by being especially considerate toward households with women, infants, and small children, and those who need special care.

Details → p. 212

Use of the toilet

A large number of people use the facility's toilets, and they may become clogged with toilet paper. Use the toilets in the manner instructed by the facility.

Details → p. 200

Securing water

When tap water is unavailable, follow the instructions of the facility's manager and secure drinking water and water for domestic use. If you are using well water as drinking water, always filter and then boil it.

Details → p. 199

Crime prevention

An evacuation center does not provide a perfect residential environment. Keep in mind that you have to protect yourself, and if you see someone acting suspiciously, contact the police or facility staff.

Take care of your health

The drastic change of environment could negatively affect your health. Be sure to take measures to care for your health. Drink enough water during the summer, and keep warm during the winter.

Details → pp. 192-195, p. 197

Maintain sanitation

No shoes should be worn inside the facility. Divide the space into passageways and places where the futon mats are laid out. Decide on a place to put rubbish, and be sure to tightly close the garbage bags to prevent the outbreak of flies and cockroaches.

Details → pp. 204-205

Smoking rules

Be sure to follow the center's rules on smoking so that you don't bother those around you, and to prevent passive smoking and the outbreak of fires.

Pets

If you own a pet, you should follow the center's rules and be responsible in looking after your pet.

Distribution of relief

Don't be impatient and calmly wait for your turn to come. Depending on the situation, a single person's share of food and relief may have to be shared with other people. Consideration toward those who need special care and cannot line up is also important.

Sanitation in cooking meals

Wash your hands carefully with soap before cooking or arranging food, touching ingredients, and after using the toilet. Cooking utensils should also be washed and disinfected after each use.

Details → pp. 208-211

Prevention of food poisoning

Food poisoning can occur at any time of the year. The best method to prevent this is to wash your hands. You should also be careful about the dishes you use. When you are unable to use water, one good method would be to serve food on disposable containers that have plastic wrap spread on them.

Details → pp. 223-224

Prevention of infectious diseases

Common colds, influenza, and other contagious diseases can easily break out. It is recommended that you wash your hands and gargle frequently. When no water is coming out of the taps, it would be reassuring if you could have ethanol ready as a disinfectant.

Sleep and turning off the lights

There are many things about living in an evacuation center that you are not used to, and because of this, people often do not sleep well and consequently become ill. There are those who cannot sleep when the lights are on, and those who cannot sleep when it's dark. One option would be to turn the lights off every other day.

Details → p. 206

Prevention of heat stroke

Beware of heat stroke at an evacuation center in the summer (especially children and senior citizens). Frequently replenish the water and salt lost by your body even if you don't feel thirsty, wear permeable clothing that is absorbent and quick-drying, and avoid the heat.

Details → p. 197

Consideration toward People Who Need Special Care

People who need special care include expectant mothers, children, the elderly, foreign nationals, and those with disabilities. Try to be considerate and supportive of such people, including those who are wearing symbol marks such as Tokyo's "Help Mark," which indicate that they have a disability that is not easily discernible.

Women and expectant mothers

Women have concerns such as where they can change their clothes, and mothers with infants are concerned about breastfeeding their child. Women who are pregnant or have just given birth also need consideration for their health and privacy.

Details → pp. 202-203

Children

Children rid themselves of stress by playing. Secure a place and time where they can express their feelings and become refreshed.

Details → pp. 220-221

Seniors

At times, senior citizens may be inconvenienced but will not come out and say it. Try to speak to them frequently in a cheery manner to keep them from feeling alone or afraid.

Foreign nationals

Because of differences in customs and culture, and difficulty in understanding the language, non-Japanese people may be feeling afraid. It's important to provide them with proper information through an interpreter or someone capable of speaking a foreign language.

Details → pp. 288-291

Returning to Daily Life

Accepting death

With 19,225 fatalities in the Great East Japan Earthquake (as of March 1, 2015, Fire and Disaster Management Agency) and 6,434 fatalities in the Great Hanshin-Awaji Earthquake (as of May 19, 2006, FDMA), many people had to accept the death of an acquaintance or loved one. In the event of an earthquake directly hitting Tokyo, it is estimated that about 11,000 people will be killed and 210,000 injured.

Details → p. 250

Moving into emergency temporary housing

If you have lost your home, you can move into emergency temporary housing (for two years in principle; could possibly be extended). Move from the evacuation center to emergency temporary housing, and start on the road to living independently as soon as possible.

Details → p. 259

Moving to the home of a relative or acquaintance

Another option would be for you to move into the home of a relative or acquaintance. It would be important to lighten the burden on them by stating that you will only be there until you find a new home.

Starting to Rebuild Your Life

Reopening business

The central government and the Tokyo Metropolitan Government have various programs to support SMEs and agriculture, forestry, and fishery operators in reopening their business. Apply to your municipality to receive such support.

Details → p. 261

Working again

If you have lost your job due to the disaster, you can look for work at Hello Work (Japanese government's employment service center) or receive support such as skills training.

Details → p. 260

Returning to school

If you have financial problems due to the disaster, or if your school was damaged, you can receive an emergency scholarship to pay for expenses related to going to school or transferring schools.

Details → p. 260

Were you able to imagine the possible dangers and actions you should take from the onset of an earthquake to rebuilding your life? It is important that you picture this happening to you. What dangers lurk in your home... in your office... at school? Imagining these as specifically as possible is your first step to disaster preparedness. Let's start now.

column

Learning from the Experience of Survivors of

The Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake

Interview 1 No victims through an accurate decision to evacuate

Toshiko Saito (resident of Ishinomaki City / 69 years old at the time of the disaster)

At the time of the earthquake, I was on the board of our community association. Immediately after the earthquake, I followed our earthquake response manual and checked my neighborhood to see if there was anyone who had not managed to escape. The ground floor of my house had been inundated with the tsunami, but the second floor was usable, so I stayed at home and went to help out at the evacuation center during the daytime.

Our community association was made up of about 1,200 households and 3,000 residents, and there were 30 board members. We not only participated in the city's annual disaster drill, but also held our own drill, with neighbors actively socializing with each other. Thanks to this, many of the residents knew what to do at the onset of an earthquake and were able to accurately judge if it was necessary to evacuate, and although there were some people who died at their place of work, no one died at home due to the earthquake and tsunami.

Through this experience, I became acutely aware of the fact that not only learning about disaster preparedness, but maintaining communication with your neighbors from normal times are very important to protect lives and survive.

Fishing boat, the Kyotoku Maru No. 18, left stranded in the city of Kesennuma, Miyagi Prefecture, at the time of the 2011 earthquake and tsunami. Although there were calls to keep it as a symbol of the disaster, it was dismantled in October 2013.
©Nihon Bousai Kankyou/Kazuhiro Yamada

Interview 2 Don' t give up. Miracles happen.

Fukuhiro Mizuguchi (resident of Kobe City / 60 years old at the time of the disaster)

I was sleeping soundly in my bedroom on the first floor, when a large shaking woke me up. The instant I realized that this was not the usual earthquake, I was trapped under my house that had collapsed and a wardrobe that had toppled over. My wife was not at home at that time and was safe, but I was buried alive. My head was not hit, and since there was a narrow space between me and the ceiling panel, I was able to breathe, but I was not able to move at all.

After a while, I had a loss of sensation in the lower half of my body, my whole body felt like it was burning, my head hurt so much it felt like it was about to crack, my eyeballs were about to pop out, and I was resigned to the fact that I was going to die there. But then when I thought about my family, relatives, my aging parents who were not living with me, and my workplace, I felt that I couldn't just die like this, and even if I am going to die, I'm not going to give up until I do. I gathered all the energy I still had left and poked my finger out of the ceiling panel, and this finger hit someone's hand. Just a few minutes more and I would have lost consciousness and died. I think this spirit of never giving up brought about this miracle.

Interview 3 Thorough talks to resolve trouble

Masanori Murakawa (resident of Kobe City / 50 years old at the time of the disaster)

From municipal housing that had tilted 30 degrees and was about to collapse, I evacuated to the gymnasium of a junior high school along with my neighbors. The most distressing things about evacuation life were troubles arising from gossip and pets.

Because we were all under stress due to concerns about our future lives, dissatisfaction with the current situation, and other matters, the atmosphere at the center often became quite awkward, with suspicion begetting idle fears. For instance, there was a lot of trouble when a rumor spread that the city had granted a subsidy somewhere. Discussions were held every night to have everyone wait until the city informs us of this, rather than be manipulated by the rumors. It took one to two months for everyone to accept this.

Another problem was dogs. For the owner, a pet is a member of the family, but we were opposed to having them inside because there were people who do not like dogs, and also people who were ill. Thorough discussions were held on this matter as well, and in the end it was agreed to have the owners keep the dogs on a chain outside the center. Through this experience, I became aware of the fact that thorough communication is essential to overcoming problems.

Interview 4

Children in high spirits lift the spirits of adults as well

Setsuko Higashida (resident of Kobe City / 58 years old at the time of the disaster)

My home was not damaged so I stayed at home and went to the evacuation center to give support. There were about 20 to 30 children of kindergarten and elementary school age. At first they were quiet and stayed close to their parents, but later they started to run around and were scolded by the adults for being too noisy.

On the third day after the earthquake, teachers came to confirm that the children were safe, and it was decided to let them play at the school. After playing at the school for an hour or so, the children came back in good spirits. And after a while, the 5th and 6th graders started to help by, for instance, taking down the names of visitors and distributing boxed lunches. Children taking the initiative to find roles that they can serve and becoming revitalized by working for the sake of others, revitalized the adults as well.

But mental care for the children is also essential. If an adult who is close to them stays nearby and shows understanding toward what the children are saying, they will calm down. In order for children to survive the earthquake, it would be important for parents and children to promise to "protect themselves by themselves."

Ms. Higashida's son's home, which collapsed during the Great Hanshin-Awaji Earthquake (her son was rescued). © Setsuko Higashida

Interview 5 You are responsible for protecting your life

Yoko Yamada (resident of Ishinomaki City / 45 years old at the time of the disaster)

On the day after the earthquake, I went from the evacuation center to the area near my house. The tsunami had swept away the houses from where my home stood to the seaside, and there were none left. I wasn't able to see my house over the mountain of rubble, but I think it was also swept away. I realized that I wouldn't be able to move forward unless I accept this. That was the start of my life at the evacuation center.

At first, there was hardly any support, and I was resigned to the fact that I would have to do whatever I was able to do by myself. A local nurse came to the evacuation center as a volunteer. When I discussed the situation of my brother who was on dialysis, I was asked to help the nurse with people among the 2,000 some evacuees, who had become ill or had disabilities, and with first-aid for people living near the evacuation center who fell ill.

Through my participation in this harsh environment where people's lives are at stake, I learned that I should say "no," when I myself was unable at that moment to respond or did not know the answer to questions from the evacuees. In an emergency, to give people expectations to no avail will just invite confusion. I realized that when an earthquake strikes, it would be difficult to protect yourself and survive unless you do whatever you can do by yourself.

Interview 6 The experience fundamentally changed in my life

Hideki Taga (resident of Tokyo / 27 years old at the time of the disaster)

Right after the Great Hanshin-Awaji Earthquake, the phones weren't working, and with no information coming in, I was forced to decide what to do by relying on the words of other survivors. Hearing the voices of people trapped under buildings calling for help and seeing people who were crushed as I moved toward safety, I felt that life as I knew it was falling apart.

Patients that I had seen as a graduate student in clinical psychology who had said they wanted to do die, survived, and in the earthquake, people who wanted to live, had died. This experience made me want to go into work that keeps people alive and supports their lives. Following this, I entered a nursing school and became a nurse. The Great Hanshin-Awaji Earthquake fundamentally changed my life.

Interview 7 Mental care for children

Maiko Fujita (resident of Tokyo / 7 years old at the time of the disaster)

I was 7 years old at the time of the Great Hanshin-Awaji Earthquake. I remember that it took quite a long time for me to understand that an earthquake had struck. I was startled by the large shaking, and living at home after that was also quite difficult. Somehow, it just didn't seem real. But then I saw a district that was hit especially badly. The sight of the expanse of burnt ruins from the train window is something that I will probably vividly remember forever. This was one month after the earthquake struck, but I was very shocked by how bad the situation was. I think it was then that I finally realized that my town had been destroyed.

Since then, I didn't want to talk about that time or look at pictures, and it took quite a long time for me to accept what had happened to me. Children have to become adults while holding such experiences. I think it is important to not only teach them about how formidable an earthquake is, but to have them become capable of overcoming the disaster.

Interview 8 Harsh life at the evacuation center spent with my young children

Aoi Kimura (resident of Higashimatsushima City / 26 years old at the time of the disaster)

I spent one week at the evacuation center with my sons, ages 5 and 6, and my 6-month-old daughter, who was just about to start eating baby food. The junior high school gymnasium that we evacuated to was not a designated evacuation center and so it didn't have any stockpiles. We had to try to stay warm with just the clothes we were wearing. And since my daughter was about to switch to baby food, I was not producing much milk, and so in place of baby food, I had to give her the food rations that were distributed starting the next day. Life at the evacuation center was stressful for the boys. People would look obviously annoyed when my daughter cried just a little or if my sons shouted and ran around, so I spent much of my time apologizing. There were people who helped us, but my sons were getting frustrated, and I was getting mentally exhausted. I was finally able to get rid of this stress when we returned to our house although the power and water supply lines had not yet been restored.

I had never even considered carrying around emergency goods with me when going out with my children. It would have made life at the evacuation center so much easier if I had a bib for the baby, wet wipes to use as baby wipes or to clean their hands, a portable flashlight, and other such items. I now carry these things around with me at all times, and live with a heightened awareness of disaster preparedness.

Disaster Preparedness Quiz

Q 1 What should be the first thing you do when you feel the tremors of an earthquake?

Answer → p. 17

Q 2 What should you do if you are using something with a flame when the earthquake strikes?

Answer → p. 18

Q 3 What should you do if you are trapped in your room and/or cannot move due to the earthquake?

Answer → p. 25

Q 4 What should you do if an earthquake strikes when you are at school?

Answer → p. 29

Q 5 What shouldn't you do right after the tremors subside?

Answer → p. 38

Q 6 What should you do before evacuating?

Answer → p. 46

Q 7 What should you be cautious of when evacuating?

Answer → p. 48

Q 8 When you see a fire, how should you escape and in what direction?

Answer → p. 49

Q 9 What word do we use to mean helping each other to overcome the earthquake?

Answer → p. 52

Q10 Who are "people who need special care"?

Answer → p. 66

10 Key Points to Observe When an Earthquake Strikes

During the earthquake

1 Earthquake! First, protect yourself

Details →pp. 17, 20-23

When you feel a tremor or receive an earthquake early warning, first, protect yourself.
Hide under a sturdy table or a place where you will be protected from falling objects or furniture and other heavy items toppling over or sliding into you, and wait for the shaking to subside.

Points to heed on high floors(from about the 10th floor and up)

Details → p. 36

On high floors, the swaying could last for several minutes.
In addition to causing objects to fall or furniture, etc., to topple over, the large, slow swaying could cause them to slide a large distance.

Immediately after the earthquake

2 Stay calm and check possible sources of fire. Take first response fire extinguishing measures if necessary

Details → p. 18

If you are using an open flame, stay calm and turn it off after the shaking subsides.
If a fire breaks out, act calmly and put it out.

3 Hasty actions could cause injuries

Details → p. 18

Be careful of fallen objects, furniture, etc., that has toppled over, and broken glass inside the room.
Don't rush out or you could be injured by falling tiles, broken window glass, and signboards.

4 Open the window or door, and secure an exit

Details → p. 19

After the shaking has subsided, secure an exit for evacuation.

5 Stay clear of gates or walls

Details → p. 19

If you feel the tremor while outside, stay clear of concrete block walls and other things that could collapse.

After the Earthquake

6 Fire and tsunami: safe evacuation

Details → pp. 40, 48-51

If your area is in danger of a large-scale fire, and you feel endangered, evacuate to a temporary evacuation area or evacuation area.
If you are near the ocean and feel a large tremor or if a tsunami alert has been issued, quickly evacuate to a safe place such as high ground.

7 Correct information and proper actions

Details → p. 42

Gather correct information from the radio, TV, fire department, and the government.

8 Confirm the safety of your family and neighbors

Details → p. 44

After confirming the safety of your family, check if your neighbors are safe.

9 Cooperate with each other for rescue and relief

Details → p. 53

Neighbors should cooperate in rescuing and providing relief to people who have been trapped under collapsed houses or furniture.

10 Before evacuating, check your electricity and gas

Details → p. 47

If you need to evacuate, turn off the circuit breakers and close the main gas valve before evacuating.

Stockpiles
p. 84

Preparing Inside the Home
p. 94

Preparing Outside the Home
p. 114

Communication
p. 122

2

Let's Get Prepared Disaster Preparedness Actions

What may protect you and your family in the event of the earthquake could be just one piece of knowledge, just one tool, or just some simple communication. Small preparations transform into enormous help. In this chapter, we have compiled things you can do now to prepare for a disaster. Don't regret not doing so after a major disaster hits. Let's start preparing now.

Four Preparations to Do Now

Stockpiling goods

What is most indispensable at the time of a disaster is a stockpile of food and daily essentials. Have a stockpile ready to continue living at home and to survive.

Concept of “daily stockpiles” → p. 85
Essential stockpile items → p. 86
Household stockpile list → p. 88
Preparation of an emergency bag → p. 90
Five key points → p. 93

Preparing inside the home

You need to take measures to prevent objects from falling or furniture from toppling over or sliding into you in order to avoid being trapped, and to prevent glass from shattering. It’s also important to not have objects blocking passageways.

Points to stabilizing furniture → p. 96
Tools to prevent objects from falling, toppling over, or moving → p. 98
Furniture stabilizing checklist → p. 100
Protect yourself from the tremors through seismic retrofitting → p. 106
Fire prevention measures to prevent the outbreak or spread of fire → p. 109

Preparing outside the home

In order to evacuate safely, you should know the situation around your house and your community’s level of risk. It’s also important to check the evacuation routes and walk through them.

Know the area around your house → p. 114
Confirm evacuation places → p. 115
Know the topology → p. 116
Know your community’s earthquake risk → p. 118
Know where you will be able to protect yourself → p. 120

Prepare through communication

Cooperation with your neighbors is indispensable in a disaster. Make it a point to exchange greetings with your neighbors and participate in disaster and fire drills held by your community association.

Hold a family meeting → p. 122
Community networking → p. 124
Disaster preparedness in apartment buildings → p. 125
Confirm safety and collect information → p. 128
Participate in fire and disaster drills → p. 130

Stockpiling Goods

DO NOW

Importance of stockpiling at home

Once a major earthquake strikes, it is anticipated that lifelines such as electricity, gas, and water will be damaged, and the supply of goods will be interrupted. Given that following the earthquake, many Tokyo residents are expected to remain in homes that were spared collapse or serious damage for a period of time, it is important for everyone to prepare the items necessary to continue living at home ahead of time.

Buy extra food and daily essentials
Consume items in daily life
Always maintain a little more than you need
Replenish items before you run out

The “daily stockpile” concept

Until now, it was thought that stockpiling emergency supplies was special and involved preparing items not normally used such as ship biscuits and flashlight headbands. As such, there are probably many people who gave up, believing that managing and maintaining a stockpile was difficult. However, the “daily stockpile” method allows you to easily create an emergency stockpile just by buying a little more of the food and essentials that you normally use on a daily basis.

Essential Stockpile Items

DO NOW

The following lists are examples of the bare minimum of items you should stockpile. Because each household is different, you should consider what is best for each member of your household and create your stockpile.

Food and water

Food such as canned food can be consumed without being heated. Vegetable juice can help compensate for vitamin and mineral deficiencies.

- ☐ Water (for drinking, cooking, etc.)
- ☐ Staple foods (heat-and-eat rice, noodles, etc.)
- ☐ Side dishes (canned food, heat-and-eat dishes, frozen food)
- ☐ Canned food (fruit, azuki beans, etc.)
- ☐ Vegetable juice
- ☐ Food that can be consumed without being heated ("kamaboko" steamed fish paste, cheese, etc.)
- ☐ Snacks and sweets (chocolate, etc.)
- ☐ Nutritional supplements
- ☐ Seasonings (soy sauce, salt, etc.)

Items that disaster survivors found valuable

The following is a list of items that people who experienced evacuation life in a disaster-stricken area found particularly helpful. Households with infants or elderly family members should always keep an extra supply of items absolutely essential to their daily lives such as diapers and medications. The same can be said for household members who are ill, on a special diet, or have allergies.

- ☐ Water
- ☐ Portable gas cooking stove and canisters
- ☐ Everyday medications
- ☐ Emergency toilet
- ☐ Flashlight
- ☐ Batteries
- ☐ Radio (rechargeable type, etc.)
- ☐ Plastic bags
- ☐ Plastic wrap

Daily items

Large plastic bags can also be used to transport water from a water supply point or as emergency toilets. Select items according to your lifestyle.

- ☐ Water for domestic use
- ☐ Medications for a chronic disease/everyday medications
- ☐ First aid kit
- ☐ Tissue paper
- ☐ Toilet paper
- ☐ Wet wipes
- ☐ Sanitary napkins
- ☐ Disposable body warmers
- ☐ Lighter
- ☐ Garbage bags/large plastic bags
- ☐ Emergency toilets
- ☐ Radio (rechargeable type, etc.)
- ☐ Spare battery for your mobile phone
- ☐ Latex gloves
- ☐ Flashlight
- ☐ Batteries

Household Stockpile List

DO NOW

Items and amounts of the household stockpile

"Daily stockpiles" is based on the concept of stocking extra supplies of food and other daily items to prepare for an emergency. Because different households have different circumstances, it would be important for you to consider what items and how much of them are needed for your family to continue living at home after a disaster, and then prepare those items as your own "household stockpile."

Model family: A family of four—husband, wife, infant and elderly woman

Father	Kyotaro Azuma (40) Teacher; likes curry
Mother	Kyoka Azuma (36) Works for an insurance company; currently on maternity leave; uses contact lenses
Child	Kyonosuke Azuma (11 months) Allergic to eggs
Grandmother	Kyoko Azuma (70) Has high blood pressure; wears dentures; has poor hearing

	Supplies for everyday use (to always be stocked)	Supplies for a disaster
Items that disaster survivors have found valuable	☐ Water (for drinking, cooking and other use): 12 2-liter bottles ☐ Portable gas cooking stove: 1; canisters: 6 ☐ Medicine, non-prescription drugs: 1 box each	☐ Emergency toilet: about 30 times worth (each to be used several times) ☐ Flashlight: 2 ☐ Batteries ☐ Hand-rechargeable or other type of radio

	Supplies for everyday use (to always be stocked)	Supplies for a disaster
Food	☐ Staples Pre-washed rice: 5 kg; heat-and-eat rice: 6; dried noodles: 1; instant noodles: 3 ☐ Main dish Canned food (e.g. miso-stewed mackerel, vegetables): 6 each ☐ Heat-and-eat food: 9 ☐ Canned food (fruit, etc.): 1 ☐ Vegetable juice: 9 ☐ Drinks: 6 500-ml bottles ☐ Cheese, "kamaboko" steamed fish paste, etc.: 1 pack each ☐ Snacks: 3 ☐ Nutrition bars, etc.: 3 boxes; powdered health drink: 1 bag ☐ Seasonings: 1 set	
Daily items	☐ Large plastic bag, garbage bag: 30 each ☐ Plastic bag ☐ First-aid kit ☐ Plastic wrap: 1 ☐ Tissue paper: 5 boxes ☐ Toilet paper: 12 rolls ☐ Disinfecting wet wipes: 1 box (about 100) ☐ Disposable contact lenses: 1-month supply ☐ Disposable body warmer: 10 ☐ Ignition stick: 1	☐ Spare battery for mobile phone: 3 (the number of mobile phones) ☐ Latex gloves: 1 box (about 100)
For women	☐ Sanitary napkins: about 60	
For infants	☐ Powdered infant formula: about 20 single packets(allergen-free) ☐ Baby food: at least 1-week supply (allergen-free) ☐ Baby wipes: 1 pack ☐ Diapers: about 70	
For the elderly	☐ Rice gruel or other soft food, food for the elderly: at least 1 week supply ☐ Medicine (prescription drugs): 1-month supply ☐ Battery for hearing aid: 6 ☐ Denture cleaner: about 30	

*Based on the above list, prepare your own set of items that meet the needs of your household.

Emergency Bag

DO NOW

An emergency bag is a bag that contains the minimum essentials needed for the time being after you evacuate. In preparing an emergency bag, it is important to think about what each of you would need, and select items to be put in the bag. Pack those items in bags such as knapsacks, and place them near the front entrance or in the bedroom, car, or shed so that you can carry them out even if your house has collapsed.

- ☐ Flashlight
- ☐ Portable radio
- ☐ Helmet
- ☐ Protective hood
- ☐ Work gloves
- ☐ Blanket
- ☐ Batteries
- ☐ Lighter
- ☐ Candles
- ☐ Water
- ☐ Food
- ☐ Instant noodles
- ☐ Can opener
- ☐ Knife
- ☐ Clothing
- ☐ Baby bottle
- ☐ Cash
- ☐ First-aid kit
- ☐ Bankbook
- ☐ Seal

Emergency bag that is always carried around

In case a disaster occurs while you are out, always carry the minimum requirements in your bag. Remove the batteries from the portable radio.

- ☐ Portable radio
- ☐ Mobile phone battery recharger for mobile phone
- ☐ Whistle
- ☐ Map
- ☐ Light
- ☐ Toothbrush
- ☐ Coins
- ☐ Water bottle
- ☐ Battery
- ☐ Emergency toilet
- ☐ Emergency set / blanket

Emergency bag to be kept at workplace

Aside from what your employer has in stock, prepare your own emergency supplies by imagining what you would need if you have to stay overnight at your workplace or walk home.

- ☐ Comfortable shoes
- ☐ Light
- ☐ Sleeping bag
- ☐ Water bottle
- ☐ Helmet
- ☐ First-aid kit
- ☐ Emergency toilet
- ☐ Emergency food
- ☐ Work gloves
- ☐ Raincoat

Important items you should keep together

Keeping certificates or other important documents in a plastic case with a fastener can also protect them from water. It might be a good idea to carry a photograph of your family in case you need it.

- ☐ Photograph of your family
- ☐ Bankbook
- ☐ Stock certificate
- ☐ Driver's license
- ☐ Health insurance card
- ☐ Medication record
- ☐ Pension record
- ☐ Seal
- ☐ Passport

column

Living without help for a week

Anyone Can Prepare “Daily Stockpiles”

“Daily stockpiles” is keeping extra supplies of daily items

If a major disaster strikes and disrupts infrastructure, it would even be difficult for the authorities to respond quickly. You should thus keep a stockpile of items that can allow you to live without relying on anyone for at least a week until relief arrives. This is the idea of emergency stockpiles. Simply buy and stock the items you always need at home and use them in order of purchase. You don’t need to buy something special for an emergency. This is the concept of daily stockpiles, and it is not difficult. Prepare by simply buying and keeping a little more food and daily items than usual.

If food in the refrigerator is taken into consideration, what you need to prepare becomes smaller (See “Five key points for stockpiling”). However, it is important for families with infants, the elderly, and/or people with an illness to prepare extra supplies of specifically necessary items that would not be available immediately after a disaster, such as powdered infant formula and daily medicine. Take the time to think about what you will need to survive and prepare a stockpile tailored to your lifestyle.

Difference between staying at home and staying elsewhere

After a disaster, some stay at home and others evacuate and stay elsewhere. People staying at home will live on their own stockpiles, and those who cannot continue living at home will stay at evacuation centers. Necessary supplies are totally different for people staying at home and those staying at evacuation centers.

If you have to evacuate from your home because it had collapsed or burned down, you will only be able to carry the minimum essentials because the top priority is protecting your life. In that case, it will be difficult to use your stockpiles. Therefore what you need when you leave home is an emergency bag containing the minimum requirements, which is compact enough to be carried to the evacuation center. The minimum requirements vary from person to person, so it is important that you think by yourself about what you need to survive and prepare those items, rather than simply buying items based on a prepared list.

Five key points for stockpiling

1 A refrigerator is a storage place for food

It is said that a typical household has a one to two-week supply of food, including items in the refrigerator. If you start with food in the freezer, go on to items in the refrigerator, and then to the remaining food, you will be able to live on your regular stock of food for several days.

2 Importance of water for domestic use

When water supply is cut off, a major difficulty you will face is not having water for domestic use. To prepare for this, always have the bath tub filled with water. If you live in an apartment, water in the receiving tank of the building will also be available, but rules on how this will be distributed to the residents must be decided in advance.

3 Must-haves for all-electric housing

In all-electric houses, you cannot even boil water if the power supply is suspended. With boiled water, you can prepare instant noodles and many other kinds of food. So stock portable cookers and canisters. For houses that are not all-electric as well, portable cookers will be very helpful when the gas supply is suspended.

4 If you live alone

If you live alone and often shop at convenience stores, you probably don’t have a week’s supply of food in your refrigerator. Try purchasing a little more of your favorite items such as instant noodles, heat-and-eat food, snacks and beer at the convenience store to build up your stock.

5 Be aware of the use-by date

Just like food, items such as batteries, medicine and disposable warmers also have use-by dates. Regularly check the dates so you will not run into problems when they become necessary.

Based on information provided by Professor Kishie Shigekawa, Graduate School of Environment and Disaster Research, Tokoha University

Preparing Inside the Home

DO NOW

30-50 percent of earthquake-related injuries in recent years were caused by falling objects or furniture and other heavy items toppling over or sliding into people.

While the best protection against such injuries is to not to put anything in a room, this may not be realistic. The next best approach is to arrange furniture so that you won't be crushed by it. If you also install stabilizing devices to prevent objects from falling or furniture and other heavy items from toppling over or sliding, you can reduce the risk of injury.

Keep furnishings to a minimum

Through the use of closets and built-in storage spaces, try to keep furnishings to a minimum in living areas. By promptly moving to an area clear of objects when you hear an earthquake early warning, you can increase your level of safety.

Ensure escape routes are clear

Plan the layout of your furniture to ensure that your escape route and doorways are clear of obstructions. Use built-in shelves for storage rather than placing furnishings near the entrance to a room or in the hallway. Furthermore, be aware that drawers may slide out during an earthquake, and consider the direction a piece of furniture faces.

Prevent secondary disasters such as fires

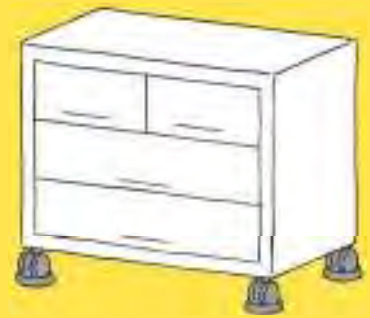
If furnishings or other objects fall onto or slide into a gas heater, this could cause a secondary disaster such as a fire. In addition, it is essential that steps be taken to stabilize furniture or electrical appliances that could spark a fire in order to prevent them from falling, toppling over, or sliding.

Furniture Stabilization Measures

DO NOW

Securing furniture to the wall is the most basic way to prevent items from tipping over or sliding.

Once you have planned the layout of your furniture, it is now time to secure it in place through the use of various stabilizing devices. The surest way to achieve this is to use L-brackets and screws to secure a piece of furniture to the wall. If this is not an option, using tension rods in conjunction with tip-over prevention wedges or anti-slip pads will raise the level of effectiveness.



Stabilize furniture on casters

For furniture that you move on a daily basis, lock casters when you are not moving it around. If the piece has a fixed location, attach it to the wall or floor using a detachable safety strap or other means. For furnishings that you do not normally move, install devices such as caster cups or tension rods to stabilize them.

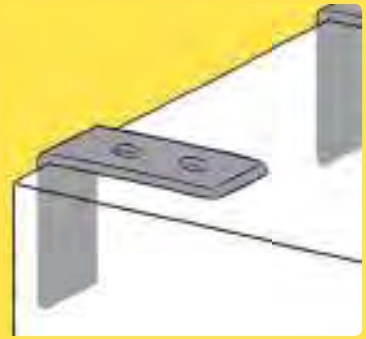
Prevent furniture legs from sliding

Even furnishings not set against a wall that are not tall require measures to prevent them from sliding, especially tables and chairs. Affix adhesive anti-slip pads to furniture legs, or on carpet, use slide prevention mats.

Measures to counter long-period ground motion

Strong, slow shaking that lasts for an extended period is characteristic of long-period ground motion (see page 240). To prepare for this type of shaking, you need to pay special attention to hanging lighting fixtures and items in the home that contain water such as aquariums and water dispensers. Take steps to stabilize these items using the appropriate safety devices.

Stabilizing Devices

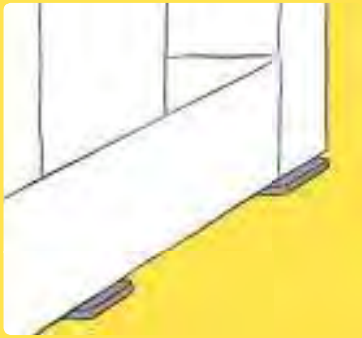


☐ **L-brackets (installed facing downward)**

Secure furniture to the wall using wood screws or bolts. L-brackets can be installed using the slide method, facing upward, or facing downward. Installing the brackets facing downward offers the strongest support.

☐ **Tension rods and pole devices**

These devices are not secured using screws, but are installed in the space between the piece of furniture and the ceiling. By pairing these devices with anti-slip gel pads and tip-over prevention wedges, stability is increased.



☐ **Anti-slip sheets (pad type)**

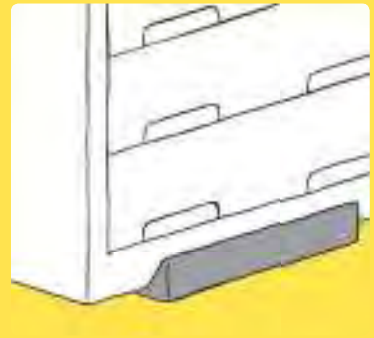
These sticky gel pads act to grip the underside of the piece of furniture, adhering it to the floor.

☐ **Detachable furniture safety straps**

Attach furniture on casters to the wall with furniture safety straps to prevent movement.

☐ **Chains**

Use chains or wires to attach hanging lighting fixtures to the ceiling to provide extra stability.

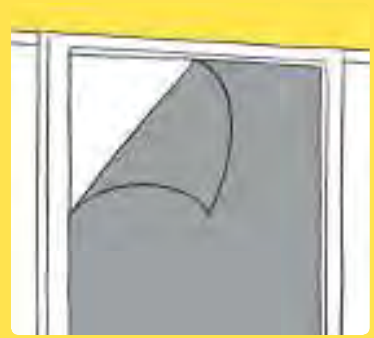


☐ **Tip-over prevention wedges**

Insert the wedge beneath the front of the piece of furniture and lean it toward the wall.

☐ **Caster cups**

Place the cups under caster wheels to prevent furniture from moving.



☐ **Anti-shatter glass film**

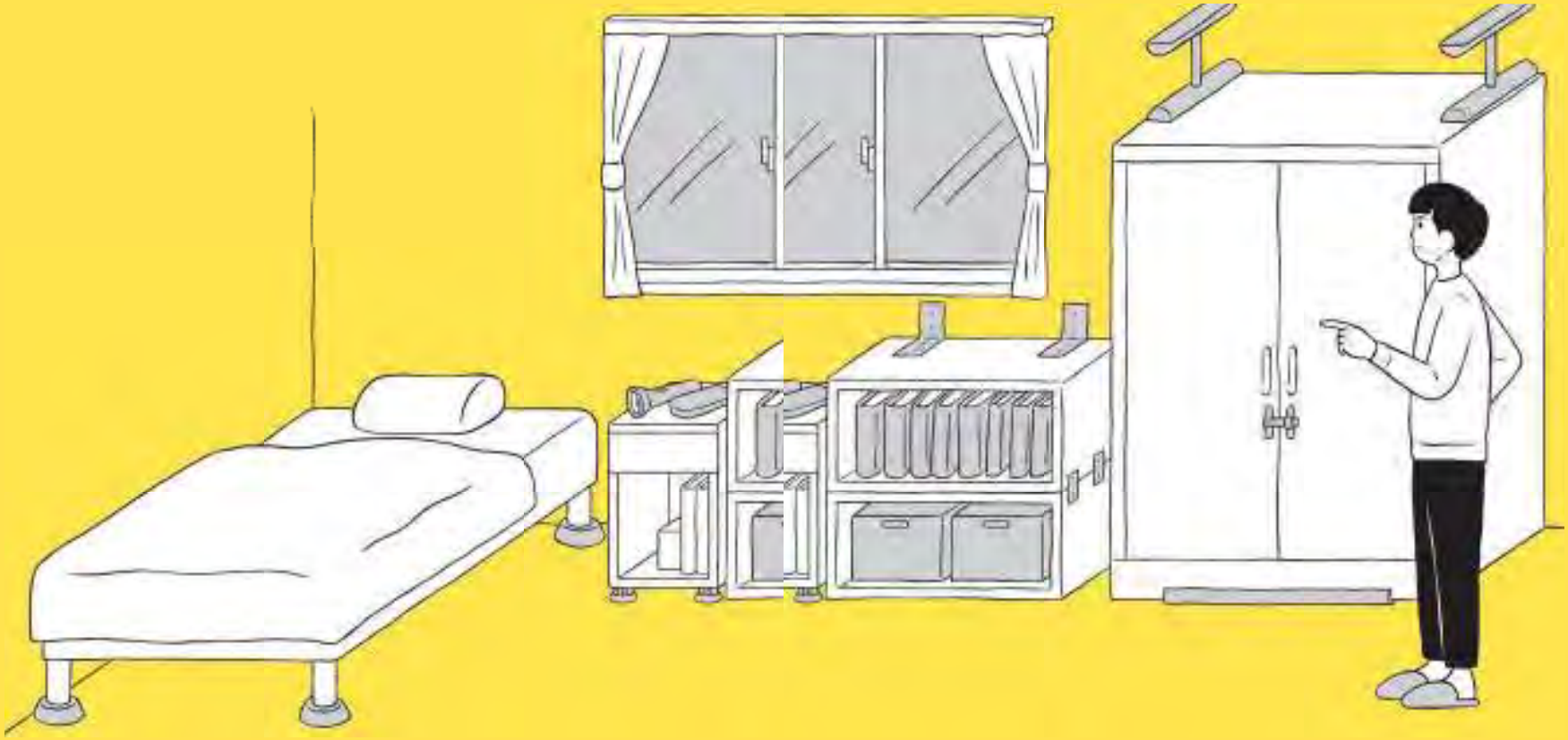
Apply this film to glass doors and windows to protect against flying glass in the event a glass surface shatters.

Furniture Stabilizing Checklist

DO NOW

Living room, kitchen

- ☐ Hanging lighting fixtures — Use chains to prevent fixtures from swinging.
- ☐ Television — Stabilize the TV on the TV stand using a detachable furniture safety strap or other method. Affix the stand to the wall using L-brackets, and prevent the TV from sliding through the use of anti-slip pads.
- ☐ Microwave oven — Stabilize the microwave on the stand using anti-slip pads or safety strap devices, and secure the stand to the wall using L-brackets.
- ☐ Tables and chairs — Affix anti-slip pads to the legs of tables and chairs to prevent sliding.
- ☐ Cupboards, china cabinets — Place cupboards where they won't obstruct escape from the house, even if they tip over, and secure them to the wall. Apply anti-shatter film to any glass.
- ☐ Drawers — Install safety latches to prevent drawers from sliding out.
- ☐ Cabinets — To prevent the items stored inside from flying out, install safety latches on cabinet doors.
- ☐ Refrigerator — Place the refrigerator where it won't obstruct evacuation from the house, and secure it to the wall using a safety strap or other device. Don't put items on top of the refrigerator that could easily fall off during an earthquake.



Bedrooms

- ☐ Bed — Prevent sliding by attaching anti-slip pads to the legs of the bed or other method. Don't hang framed pictures, wall clocks, or other items on the wall or ceiling near the bed.
- ☐ Window glass — Apply anti-shatter film to windows.
- ☐ Furniture on casters — When not moving furniture, lock casters, insert caster cups, and secure the unit to the wall with furniture safety straps.
- ☐ Stackable storage boxes, shelves — Join upper and lower units with connectors and secure units to the wall with L-brackets. Don't put items on top of the unit that could easily fall off during an earthquake.
- ☐ Chest of drawers, wardrobes — Place chests and wardrobes where they won't obstruct your escape route and doors. Secure the unit to the wall or ceiling using L-brackets or tension rods, and place a tip-over prevention wedge under the unit.

Offices

- ☐ Entrances — Don't place items near entrances in order to keep the escape route clear.
- ☐ Around desks — Secure computers to desks using anti-slip pads or safety straps, and join desks together with connectors.
- ☐ Storage units along the wall — Secure units to the wall using L-brackets. Install latches on drawers and cabinet doors. Join upper and lower units with connectors. Don't place items on top of storage units that could easily fall off during an earthquake.
- ☐ Copy machines — Stabilize each unit by installing stabilizing adjusters under the machine, and secure it to the wall using safety straps.
- ☐ Partitions — Lay out partitions in formations that will not easily fall over such as H or U-shaped formations and secure them to the floor.
- ☐ Bulletin boards — Secure bulletin boards to the wall with L-brackets to ensure they don't fall down.
- ☐ Windows — Apply anti-shatter film to the glass. Don't place items in front of windows that could easily fall over.

Seismic Retrofitting

DO NOW

Importance of seismic retrofitting to keep from being crushed to death

Some 80 percent of the people who were killed in the Great Hanshin-Awaji Earthquake were crushed to death by collapsed buildings. It is said that buildings that were constructed over 30 years ago, before the new building code for seismic resistance came into effect on June 1, 1981, have low safety against a major earthquake. These buildings should be inspected for seismic resistance.

Seismic resistance checklist

First, check your seismic resistance by yourself using the following list. If a lot of the check points apply for your house, have a professional conduct a seismic inspection.

- ☐ The house was built before June 1, 1981.
- ☐ New extensions were built two or more times. A section of the wall or column was removed for the extension.
- ☐ In the past the house suffered major damage such as flooding, fire, or earthquakes.
- ☐ The house is located on reclaimed land, swampy lowland, or developed land.
- ☐ The building foundation is made of something other than reinforced concrete.
- ☐ A window makes up a whole wall.
- ☐ Relatively heavy roofing materials such as Japanese tiles or western tiles are used, and the ground floor has few walls.
- ☐ The building is in an L-shape or T-shape, and has an uneven structure.
- ☐ There is a large atrium.
- ☐ It seems like the doors and windows are badly fitted, and the pillars and/or floor are tilted.
- ☐ There's a crack in the wall.
- ☐ The veranda or balcony is damaged.

Seismic retrofitting consultation desk

The Tokyo Metropolitan Government has a consultation desk for seismic retrofitting. Consultation is free (p. 269). Some municipalities have programs to subsidize part of the costs of seismic inspections and retrofitting.

Seismic retrofitting of apartment buildings

The owners association should gather information on seismic resistance, have the building undergo a seismic inspection, and based on this, discuss the issue of seismic retrofitting.

Details → p. 125

Tokyo Metropolitan Seismic Certification Mark

So that Tokyo residents can feel safe using buildings, this mark shows the safety of the building against earthquakes. Buildings with this mark have been confirmed to comply with seismic resistance standards.

Fire Prevention Measures

DO NOW

Importance of measures to prevent the outbreak and spread of fires

It is critical to prevent the outbreak of fires and stop their spread. To equip your house with fire extinguishers, household fire alarm systems, ground fault circuit interrupters, and earthquake-tripped circuit breakers is also said to be effective. When evacuating, close the main gas valve, and turn off the circuit breakers.

Fire extinguishers for home use

These are small and lightweight, and can be easily used, even by women and the elderly. There are two types of fire extinguisher agents—water and alkali salt, and powder. There is also an even more simple and compact aerosol spray type. The expiration period differs by type, so be sure to note the date and replace them accordingly. Considering situations in which the extinguishers might be used, keep them where you can easily get your hands on them, such as near the kitchen, in the hallway, or by the front door.

Fire alarm systems

Devices installed on the ceilings of the bedroom, kitchen, and other rooms, detect smoke and heat from fire, alert you through a noise or voice alarm, and help prevent delays in escaping. To ensure that this alarm system works properly in an emergency, be sure that the batteries haven't run out and periodically check their operation by pressing the test button.

Ground fault circuit interrupter

This device automatically shuts down the power in about 0.1 seconds after an abnormal current flow due to electrical current leaks or other problems. This is installed in the distribution switchboard and shuts down all the power if there is an electrical current leak anywhere in the house. Check to see if you already have ground fault circuit interrupter installed, and if not, it would be reassuring if you install one.

Earthquake-tripped circuit breaker

This device detects the strong shaking of an earthquake and shuts down the power. Along with fire extinguishers and ground fault circuit interrupters, the installation of this device is said to enhance prevention of the outbreak of electrical fires. There are different types such as socket types, distribution switchboard types, and simple types, with some giving consideration to matters such as securing lights during a power outage, and maintenance.

Fire prevention checklist

There are three main causes for the outbreak of fire at the time of an earthquake: fire from electrical current leaks or when power is restored, fire from gas leaks, and fire from oil stoves. Inspect your house for fire prevention and take measures to prevent fires from occurring.

Electricity	☐ Carpet or furniture is not covering the power cords. ☐ Electrical appliances not in use are unplugged. ☐ Fish tanks, flower vases or other containers of water are not located near electrical appliances. ☐ You know where the circuit breaker panel is.
Gas	☐ Propane gas tanks are fixed with chains, etc., to prevent them from falling over. ☐ In the case of city gas or propane gas, the micom-meter (intelligent gas meter) is still within its period of validity. ☐ The space around the kitchen range is not cluttered, and has no flammable objects. ☐ The gas hose is not degraded.
Oil stove	☐ There are not flammable objects around the oil stove. ☐ Measures are taken to prevent the stove from falling over.
Other	☐ No flammable objects are placed in locations that could be evacuation routes such as the hallways or stairs. ☐ The sections of the house that are adjacent to the house next door have metal shutters or windows with wire glass.

Checking Electricity, Gas, and Water Supply

DO NOW

Confirming how to shut down and restore supply

In an earthquake, the supply of electricity, gas, and water may stop. The Tokyo Metropolitan Government aims to restore power in 7 days, water supply and sewerage in 30 days, and city gas in 60 days. When you evacuate, turn off your circuit breakers, close the gas valve, and close the main valve of the water meter. Confirm where these are in advance, and learn how to turn them off and turn them back on.

column

Protect lives through installation in existing houses

Earthquake-resistant shelters that can be installed at low costs

Earthquake-resistant shelter that protects the bedroom

Have you ever heard of an earthquake-resistant shelter? These are installed in an existing house, and can protect your life by securing a certain amount of safe space even if the house collapses due to an earthquake. The major cause of death in a large earthquake is building collapse. Of the fatalities in the Great Hanshin-Awaji Earthquake, about 80 percent are said to have died by being crushed by buildings that collapsed.

Houses that are not sufficiently seismic resistant need to be retrofitted, but such construction would involve processes such as reinforcement by load bearing walls and cross-bracing, installation of dampers, reinforcement by joints, and foundation reinforcement, which would take time and be expensive. Those of you who feel the need to retrofit your house to withstand earthquakes, but hesitate to do so because of financial reasons, should consider the installation of this earthquake-resistant shelter. The bed type (photo above) protects the sleeping space only, and the room type (right photo) protects an entire room. Costs are from 200,000 yen.

When a wooden house that was installed with an earthquake-resistant shelter collapses due to an earthquake

Both can be installed while living in the house, and the installation can be done in a shorter period of time than seismic retrofitting work. For details, visit the following URL.

Tokyo Earthquake Resistance Portal Site http://www.taishin.metro.tokyo.jp/

Learning about Your Neighborhood

DO NOW

Know the area around your house

Knowing the topology, geological features, cliffs and other dangerous areas around your house, as well as past disasters and measures that were taken are indispensable disaster measures. Make sure to also confirm the location of evacuation areas, evacuation routes, open spaces such as large parks, and facilities such as community halls and convenience stores. This will facilitate your early response in the event of a disaster, and make you able to evacuate to a safe place.

Confirm evacuation places

When evacuation orders are given, or when the danger of fire approaches, you should evacuate to a temporary evacuation area (e.g. nearby elementary or junior high schools, parks). If that place becomes dangerous, move to an evacuation area (e.g. large park or open space). If your home has been damaged and it is difficult to continue living there, you can live at an evacuation center for a while. It is important to understand the difference between these three places.

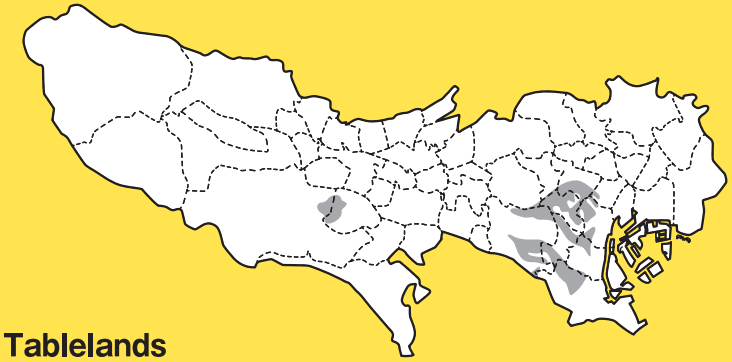
Details → p. 274

Evacuation Center	Evacuation Area	Temporary Evacuation Area
JIS Z8210	JIS Z8210	A place where people gather temporarily to grasp the situation before evacuating to the evacuation area (e.g. school playgrounds, neighborhood parks)

Know the topography

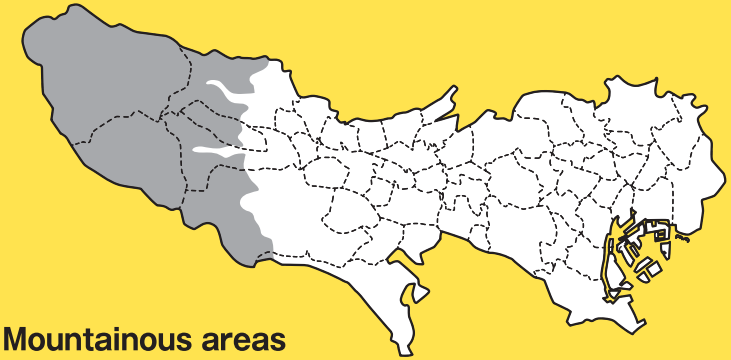
Lowlands

Lowlands in Tokyo are land along the Tama River and valley floors along the rivers flowing through the plateau, and the areas of Koto, Sumida, Edogawa, Katsushika, Arakawa, and Ota wards stretching from the old Shitamachi district of Tokyo to Tokyo Bay. Because lowlands are weak stratum called alluvium, the ground is susceptible to shaking, and areas on the coast and near rivers are also at risk of tsunamis.



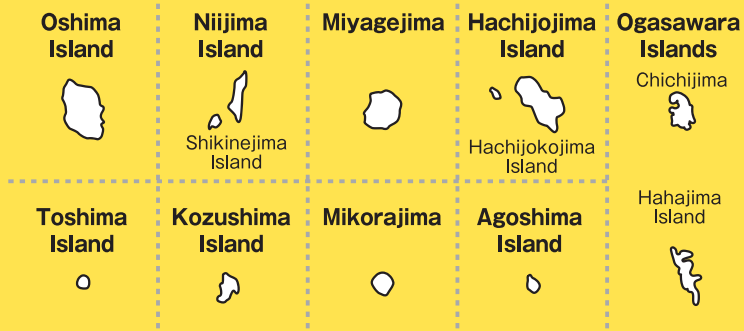
Tablelands

Tablelands in Tokyo are the area to the east side of Ome City, the region straddling the border between Hino City and Hachioji City, the Yodobashi Tableland centering on Shibuya ward and spreading to Shinjuku, Setagaya, Meguro, Shinagawa, Minato, and Chiyoda wards, and the Ebara Tableland to its south that spreads across Setagaya, Meguro, Shinagawa, and Ota wards. The ground is stable, but there are places where steep slopes are at risk of landslides.



Mountainous areas

The southeastern portion of the Kanto Mountains makes up Tokyo's mountainous area, which covers the Okuchichibu region (where Tokyo's highest summit, Mt. Kumotori, is located), all of Hinohara Village, and the western portions of Ome City, Hinode Town, Akiruno City, and Hachioji City in the Tama area. This area is at risk of sediment disasters.



Islands

Tokyo's islands are the Izu Islands and the Ogasawara Islands. In Nankai Trough earthquake estimates, the islands are at the risk of being hit by a high tsunami within minutes from the earthquakes. If roads and port facilities are damaged, it is estimated that logistics systems will cease for a few days to about a week.

Know Your Community's Earthquake Risk

DO NOW

Confirm your community's "combined risk"

In addition to a community's "fire risk" and "building collapse risk" levels, the Tokyo Metropolitan Government has released the "combined risk," which is an aggregation of these two risks, and the "combined risk in light of emergency response difficulty," which assesses the status of the existing road infrastructure that will support activities in the event of a disaster. Confirm your community's level of risk and use it to plan measures to take.

Details → p. 278

Building collapse risk

The risk of building collapse becomes higher with the age of the building and its low quake-resistance, and caution is also necessary for buildings located in alluvial lowlands and valley lowlands. Building collapse risk tends to be high in the "shitamachi" (downtown) area of Tokyo along the Arakawa and Sumida rivers, where old wooden or light-gauge steel frame buildings are concentrated.

Fire risk

When an earthquake occurs, there is the risk of wide-area damage from the spread of fires breaking out from the shaking. The degree of such risk is called "fire risk," and this is calculated from the risks of fire outbreak and spread. Many communities at high risk exist in areas where there is a high concentration of wooden houses, and are found in areas including those along Ring Road No. 7 and the JR Chuo line (ward area).

Check the hazard map

A hazard map contains information such as areas predicted to suffer damages, evacuation areas, and evacuation routes, for use in mitigating damages from a disaster and for disaster preparedness. Check the map for your community's risk of disasters from flood, landslide, liquefaction, and others.

Learn about your community's history of disasters

Disaster preparedness measures are formulated based on lessons learned from past disasters. Learning about your community's history of disasters, such as past floods or earthquakes, can enable you to make more practical preparations. Ask neighbors who have lived in the area for a long time, or look this information up at a library.

Places Safe from Fire

DO NOW

Fire-safe areas

The Tokyo Metropolitan Government has designated “fire-safe areas” where there is no fear of large-scale spread of fires and no need for area-wide evacuation. As of May 2013, 34 areas where fireproofing has progressed, a total of 100 sq. kilometers, have been designated. Specifically, this includes the total area of Chiyoda ward and the Ginza and Nihombashi areas in Chuo ward.

Evacuation Areas

Evacuation areas are mainly places where you can evacuate to safety from fire in the event of a large-scale spread of fire triggered by an earthquake. The Tokyo Metropolitan Government has designated open spaces such as large parks, green spaces, and areas with fire-resistant buildings as evacuation areas. Check your municipality’s website, etc., for more information.

column

With toilets that can be used in a disaster and benches that can be used for cooking

Disaster prevention parks as an evacuation area and operations center

Cooking stove bench (top); manhole toilets (bottom)

One of the most distressing things about an evacuation during a disaster is the toilet situation. Keep in mind that there are places called “disaster prevention parks.” These parks have toilets that can be used even when infrastructure such as water supply and electricity has been cut off. These are “manhole toilets,” in which manholes are installed along collecting sewers that lead to the sewage pipe. At the time of a disaster, the manhole cover is removed and replaced with a toilet, and a tent is erected around it to maintain privacy.

There are also benches in the park that can be used for cooking purposes during a disaster. Cooking stoves appear when the seating portion is removed. A fire can be started here for cooking (shapes vary by park). Other installations in the park include park lights that operate on solar power so that they light up even during a power failure, water pumps to manually pump up water (not drinking water) when water supply is cut off, water tanks for firefighting, and emergency water supply tanks.

Open spaces in the city will serve various roles during an earthquake. Fifty-three metropolitan parks have been built up as disaster prevention parks that can be used by anyone as an evacuation area and operations center during a disaster. As these can be useful if you are forced to walk home due to an earthquake or have to evacuate, go to the following URL to check the locations of these disaster prevention parks.

Tokoy Metropollitan Park Assciation https://www.tokyo-park.or.jp/special/bousai/basyo.html

Prepare through Communication

DO NOW

Hold a family meeting

Divide responsibilities between family members prior to an earthquake striking, such as who will be in charge of preventing a fire and who will secure an exit path. You should also designate a meeting place and a method to confirm each other's safety in case your family is not together at the time. Family members may be away from home—on their way to school or stranded due to disrupted transportation services. Also, don't forget to confirm your evacuation area and evacuation route, and the location of the circuit breaker and gas shutoff valve for your home, as well as how to operate these devices.

Use Disaster Preparedness Tokyo

Use this manual as a tool, not only at family meetings, but also when discussing disaster preparedness measures with your child's school or neighbors. Talking about disaster preparedness raises awareness, enabling people to take steps to better protect themselves in a disaster. You can also use the pages of this manual set aside for notes to enter important information and checklists for you and your family.

Notes → pp. 292-307

Community Networking

DO NOW

Exchange greetings with neighbors regularly

Cooperation with neighbors is necessary when a disaster strikes. Expand your network within the community through activities such as exchanging greetings with neighbors on a regular basis and participating in disaster preparedness drills put on by the community association, so that your life at home or in an evacuation center following a disaster will go smoothly as well.

Details → p. 130

People who need special care

People in need of special care such as expectant mothers, children, the elderly, foreign nationals, and those with serious illnesses or disabilities may not be in a position to promptly ascertain information or evacuate. In addition to always being aware of the members of your community who need special care, cooperate with commissioned welfare volunteers and others to support them when a disaster occurs.

Details → p. 66

Disaster Preparedness in Apartment Buildings

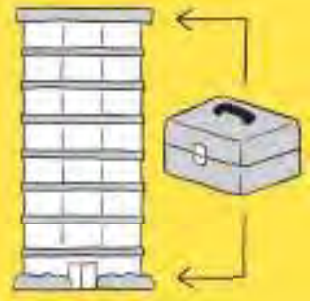
DO NOW

Create a disaster preparedness manual

Create a disaster preparedness manual within the framework of the condominium association, distribute the manual to all residents, and hold disaster preparedness drills.

Secure an indoor evacuation area

Secure space to serve as an evacuation area such as a meeting room, elevator hall, or an apartment. Common spaces within a complex such as the entrance hall, children's playroom, and guest room also come to mind. However, areas where there is the danger of shattered glass or falling objects should be avoided.



Storage of rescue kits

In a high-rise building, it is very difficult to carry rescue kits to higher floors when elevators shut down. As such, it would be better to distribute kits throughout the complex, placing kits in common areas on higher floors as well.

Disaster Preparedness Measures at Work

DO NOW

Create a manual and rules

At your company, decide on a person to be in charge of disaster preparedness, hold a disaster preparedness meeting, and make rules such as how to evacuate, where to evacuate to, and how the emergency call-down list or phone tree should work. Since the general rule on returning home following a major earthquake or disaster is to wait until after 72 hours have passed, it is necessary for you to stockpile supplies in case employees or visitors to your office become stranded there. When conditions at your workplace change such as changes in personnel, be sure to review the manual again.

Hold fire and disaster drills

Even if you create protocol for your call-down list, a manual, etc., these efforts will prove meaningless if the materials do not serve their purpose in an emergency. As such, it is necessary to regularly conduct drills according to the manual, and review trouble points so that these materials are truly functional. Consult with local fire authorities for more information.

Details → p. 130

Prepare to stay at the office

Prepare for the possibility that all employees may not be able to return home immediately following a disaster by stockpiling the supplies needed for everyone to remain at the office for three days.

- ☐ Drinking water, food
- ☐ Blankets, thermal blankets
- ☐ Plastic sheets
- ☐ Sanitary goods
- ☐ Portable radio
- ☐ Flashlights
- ☐ Batteries
- ☐ First aid kit/emergency medical supplies
- ☐ Emergency toilets

Confirm Safety and Collect Information

DO NOW

NTT's Disaster Emergency Message Dial 171 service

A message service that allows a person in the area affected by a disaster to record a message confirming their safety. This message can then be played back by others trying to reach that person.

Details → p. 226

Disaster message board services

This service, provided by cell phone carriers, enables people to register information concerning their safety using their cell phone or smartphone. These messages can then be confirmed by others.

Details → p. 227

Tokyo Metropolitan Government Disaster Prevention Website

As the TMG provides information on preparing for a disaster in normal times, as well as information on the situation when a disaster strikes, checking this site regularly is helpful.

Details → p. 270

Tokyo Metropolitan Government Disaster Prevention Map

Using the disaster prevention map provided on the TMG disaster prevention website, you can find the location of disaster prevention facilities, support stations for people returning home following a disaster, and other relevant facilities.

TMG Disaster Prevention Official Twitter Account @tokyo_bousai

Using this Twitter account, the TMG will issue alerts when a disaster occurs, including urgent information. When there is no crisis, the TMG also periodically distributes information and knowledge useful in a disaster through this account.

TMG Disaster Prevention Twitter account

By activating Twitter Alerts, important Tweets issued by public agencies and emergency response organizations will appear on your home timeline.

Details → p. 271

J-anpi

The All-Japan Safety Confirmation Portal enables users to attempt to confirm a person's safety by entering the person's name and telephone number to search information provided by disaster message boards, the media, and companies all at once.

Details → p. 272

Smartphone apps

A wide range of smartphone apps useful in times of disaster, including internet radio, disaster alert, and earthquake information apps, are available.

Public telephones

When a disaster occurs, it becomes difficult to successfully place a call using a regular phone. However, it is said that calls go through relatively easily on public telephones.

Fire and Disaster Drills

DO NOW

Participate in drills to be prepared

In order to minimize damage in the event of a disaster, it would be important for you to routinely participate in local fire and disaster drills. Fire and disaster drills are mainly made up of community disaster drills held by the citizens disaster response team, disaster preparedness education at schools, and drills held in collaboration with local residents.

Disaster drills held by the Tokyo Metropolitan Government

The Tokyo Metropolitan Government and the municipalities jointly hold a comprehensive disaster drill with resident participation four times a year.

Disaster drills held by the municipalities

Several thousand people participate in disaster drills held by the municipal government by school district or evacuation center. They are mainly held at public schools.

Disaster drills held by community associations

Centering on first response fire fighting and first-aid training, these drills include rescue and relief drills, communication drills, evacuation drills, and drills to protect yourself using an earthquake simulator.

Overnight stays at schools

Drills simulating evacuation life (drills for sleeping and preparing food) when a disaster strikes are held at all 186 metropolitan high schools (as of April 1, 2015).

*If you wish to hold a fire and disaster drill, consult with your nearby fire department.

First response firefighting

Damage could be minimized if a fire is extinguished in its initial stages. For this, learn how to use firefighting tools and equipment ranging from your simple household fire extinguisher to standpipes and portable fire pumps.

Portable fire pump

By supplying and pressurizing water using a small pump, this allows large volumes of water to be sprayed to further distances. If you learn how to use this pump, it can be operated by a small number of people to effectively extinguish fires.

Details → p. 191

Standpipe

If there is a fire hydrant, etc. available, these light and easy-to-use standpipes can be used to spray water even in narrow roads that fire trucks cannot access.

Details → p. 190

Physical protection drills

When an earthquake strikes, priority should be given to protecting your own safety. In an earthquake simulator you can experience the shaking and learn how to protect yourself from falling objects, etc. You can also learn how to protect yourself after being alerted by an earthquake early warning.

Drills to prevent fire outbreaks

Damage can be prevented if you can prevent fire from breaking out. In these drills, you learn what actions to take to prevent fire from breaking out, such as calmly turning off the flame after the shaking has subsided, and turning off the main electricity and gas sources when you evacuate.

Communications drills

This is a drill to properly communicate information on fires, rescue and relief, and earthquake damage to the fire fighting authorities. You learn how to call 119, and the important points for communications depending upon the type of phone used.

Rescue and relief drills

In these drills you learn how to use everyday tools to rescue people who were unable to escape in time due to building collapse, etc. You also learn how to give first-aid to people who were rescued.

Evacuation drills

These are drills for safe evacuation from disasters such as fires and earthquakes. You learn about the essential preparations and methods for evacuation and also learn about the properties of smoke by experiencing a smoke simulator.

First-aid drills

In order to give proper first-aid treatment in an emergency situation, these drills will teach you about first-aid treatment so that you can gain the necessary knowhow and skills.

Disaster preparedness education

In manners that suit their stage of growth, children are taught to first protect themselves, to then help people nearby, and furthermore, to contribute to their community during disasters such as an earthquake or fire. In addition to evacuation drills at school, the whole family should make it a point to participate in fire and disaster drills.

Hands-on training for disaster response

The Tokyo Metropolitan Government has three Life Safety Learning Centers where you can have fun learning about disasters and participating in hands-on training and various drills. Visit the centers located in Ikebukuro, Honjo, and Tachikawa as the first step to experiencing disaster response.

Details → p. 273

Citizens Disaster Response Team

Protect your community yourselves

This organization aims for effective community response to disasters under the principle of neighbors cooperating with each other to protect their community. This collaborative organization is based on the unit of community or neighborhood associations. The person in charge of disaster response in the community association, etc., takes a central role in calling for the formation of this team, which is formed to conduct activities in line with local circumstances. Your participation will lead to the enhancement of your community's strength and disaster preparedness.

Example of disaster response goods and equipment

Stocking goods and equipment for disaster response team activities is essential. Studies on what is necessary are made based on local circumstances. Storage and management should be done in a manner that will ensure that they can be used flexibly and promptly in an emergency.

- ☐ Helmet
- ☐ Blanket
- ☐ Work gloves
- ☐ Towel
- ☐ Fire extinguisher
- ☐ Emergency food
- ☐ Rope
- ☐ Stretcher
- ☐ Hammer
- ☐ Crowbar
- ☐ Shovel
- ☐ Ladder
- ☐ Waterproof sheet
- ☐ Megaphone
- ☐ Jack

Neighborhood disaster response groups

Groups that are working actively so people can protect themselves and neighbors can help each other as preparation for an earthquake are designated by the Tokyo Metropolitan Government as Tokyo Neighborhood Disaster Response Groups. Efforts are taken to raise community disaster preparedness by holding study meetings with disaster response specialists and seminars for citizen disaster response team leaders.

Community disaster response study meetings

Disaster response experts visit your community to give lectures that will be helpful in disaster preparation or hold discussions. By holding such meetings during your regular community association meeting or regular drills, etc., you can easily learn about disaster response.

Volunteer Fire Corps

What is a volunteer fire corps?

This is a group that undertakes firefighting activities in the community, just like the fire department does, but unlike the fire department, this is a non-regular group made up of members who have other occupations, e.g. self-employed, company employees, homemakers, and students. When a fire, flood, earthquake, or other kind of emergency arises, they initiate fire-fighting activities. Inquire at your local volunter fire corps about qualifications needed to become a member.

column

Have fun learning about disaster preparedness

Let's try "Disaster Map Exercises"

It can be fun learning about disaster preparedness. One such way is the "disaster map exercises." This is disaster drill that anyone can participate in called DIG ("Disaster" "Imagination" "Game"). Specifically, this is a disaster-training program based on the scenario a major disaster occurs in the area where the participants live, and everyone, from children to adults, works together to seriously think about how to respond to this disaster while also having fun. Features of the drill include its use of a large map and the ability of each participant to actively play a leading role.

By discussing matters using the map and writing on it, participants can confirm what kind of disasters could occur in their community, their community's weaknesses to that kind of disaster, and the community's disaster response level. In addition, participants will also realize the importance of organized activity by the community to respond to disaster. Prepare for disasters by heightening your awareness of disaster response through participation in DIG with your family and neighbors.

Basic level DIG

1. Fill in built up areas and natural conditions such as mountains, level ground, and rivers on the map.
2. Confirm the local structure and write in railways, roads, parks, buildings that can prevent the spread of fire, etc., by using different colors.
3. Mark facilities and equipment that can have a positive or negative effect on disaster response.
4. Conduct a discussion on community disaster preparedness using the completed map.

Disaster Preparedness Quiz

Q 1 What does "daily stockpile" mean?
Answer → p. 85

Q 2 Where should you keep your emergency bag?
Answer → p. 90

Q 3 What secondary disasters can occur when furniture and other heavy items fall over in an earthquake?
Answer → p. 95

Q 4 In order to prevent injuries in the house, what types of checks are needed and what steps should be taken?
Answer → p. 96

Q 5 What kind of buildings have the possibility of collapsing from the tremors of an earthquake?
Answer → p. 106

Q 6 What kind of things should be prepared to prevent the outbreak or spread of fire after an earthquake, and what cautions should be taken?
Answer → p. 109

Q 7 What is the difference between an evacuation center and an evacuation area?
Answer → p. 115

Q 8 What should be prepared for when family members are separated?
Answer → p. 122

Q 9 What are the following telephone numbers?
(1) 171 (2) 110 (3) 119
Answer → p. 128

Q10 Name more than three types of fire and disaster drills.
Answer → pp. 132-134

Heavy Rain / Strong Wind
p. 144

Torrential Rain
p. 150

Sediment Disasters
p. 152

Lightening
p. 154

Tornadoes
p. 156

Heavy Snow
p. 158

Volcanic Eruptions
p. 160

Terrorist and Armed Attacks
p. 164

Infectious Diseases
p. 168

Other Disasters and Countermeasures

Earthquakes are not the only disasters that can strike Tokyo. Many various risks can be assumed, from natural disasters such as heavy rain, storms and torrential rain, to human threats such as terrorist and armed attacks. In this chapter, we have compiled knowledge on the various risks that lurk in Tokyo and measures to deal with them. Learn about them now so you can respond calmly.

Heavy Rain and Storms

Importance of preparing in advance for floods and strong winds

Stationary rain fronts in early summer and fall often cause heavy rainfall. In addition, over the past 30 years (1981-2010), there has been an average of 26 typhoons a year. If these typhoons approach or land on Tokyo, extremely strong winds and heavy rainfall could result in inundation and river flooding. You should always check the latest weather information and protect yourself from disasters. Confirm in advance what places are at high risk by checking the hazard map, etc.

Pay attention to the latest weather information

Advisory

The Meteorological Agency will issue advisories when there is the possibility of disasters occurring from heavy rainfall or strong winds, etc. Pay attention to evacuation preparation information announced by the municipalities. And, in districts that are easily affected by rain and wind, people who need special support in evacuating should be ready to move early.

Details → p. 246

Warning

Warnings are issued when there is the possibility of a major disaster occurring, with the relevant areas called upon to exercise caution. Pay attention to evacuation information issued by municipalities, and evacuate quickly if necessary.

Details → p. 246

Emergency Warning

An emergency warning is issued when there is a heightening danger of a serious disaster of a scale that occurs only once every few decades, which will far exceed the criteria for issuing a warning. You should immediately move to a safe place.

Details → p. 247

Weather conditions that require special caution

Spring – mid Summer (stationary front)

During the seasonal transition from spring to mid-summer, the stationary front (Baiu front) appears from Japan to near the Chinese continent. When the ground is weakened by the long rains brought by this front, heavy rainfall could easily trigger sediment disasters.

Summer – Fall (stationary front)

In the seasonal transition from summer to fall, pressure patterns become similar to the Baiu front, with the stationary front appearing near Japan bringing about long or heavy rainfall that can result in road flooding and other incidents.

July – October (typhoon)

The number of typhoons approaching or landing in Tokyo increases in the period from July to October, making it necessary to be cautious of heavy rainfall and strong winds. For example, Typhoon No. 15 in 2011 caused roadside trees in Shibuya and Ginza to fall over, and affected commuters by stopping train operations.

Storm surge (coastal areas)

Tokyo is located at the innermost part of Tokyo Bay. Because the mouth of the bay is located on the southwestern side, and because the water is relatively shallow, Tokyo is very susceptible to storm surge damage. Other than storm surge due to typhoons, you should also beware of tsunamis generated by earthquakes.

Places requiring special caution

Lowlands

The lowlands have the risk of flooding from heavy rainfall. Caution is necessary because it could become difficult to see the location of gutters, etc.

Basements and semi-basements

Buildings that have basements or semi-basements, or are located on land that is lower than the road, are inclined to have more flooding damage due to torrential rainfall. Prepare sandbags, water stops and other items to prevent flooding, and evacuate before you feel endangered.

Rivers

Do not approach rivers as they have the risk of overflowing from heavy rainfall. If you live along a river, listen to local disaster information, etc., and be prepared to evacuate immediately.

Mountainous areas

In areas near cliffs and mountainous areas, beware of sediment disasters. Even if no warning has been issued, if you see the signs of a sediment disaster, secure your safety and evacuate.

Details → p. 152

Protect yourself from wind and flood damages

Listen to information issued by the authorities

The Meteorological Agency and local governments issue disaster information over the TV, radio, and other media, and the municipalities use the wireless emergency alert system to issue evacuation advisories and orders. When your local government has issued evacuation information, secure your safety and evacuate.

Know the location of places at risk of flooding

The Tokyo Metropolitan Government has released a map showing districts at risk of flooding to let everyone know the risk of flood from typhoons, etc., so they can prepare for floods and quickly evacuate. Make it a habit to confirm what places are susceptible to flooding.

Check and clean drainage facilities

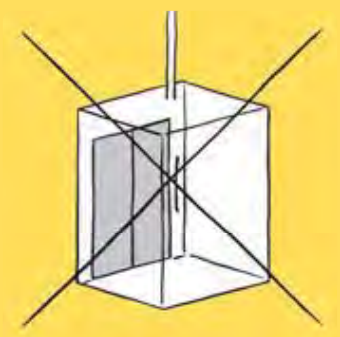
Trash, etc., accumulating in catch basins and gutters prevent rainwater from flowing and increase the risk of flooding. In basements and semi-basements, there is also the risk of flooding if drainage pumps malfunction. Make it a point to routinely check and clean the drainage facilities.

Simple ways to prevent flooding

Use sandbags, water bags, and water stops to prepare for flooding. You can also align simple water bags, in which garbage bags are half filled with water, or use a long plank as a water stop, to prevent flooding.

Wait until the typhoon passes

If you are outside when a typhoon is approaching, wait inside a nearby facility until it passes. If you are at home, refrain from going out. It will also be dangerous to go out to repair roofs or windows.



Don' t use the elevator

If strong winds cut power lines, the resulting power failure could trap you in the elevator. Use the stairs to all possible extent in the event of a typhoon or heavy rainfall.

Evacuate before water comes up to your knees

Water up to your knees can be considered a yardstick for how high water can come before it becomes difficult to walk in a flood. And even though the water may not be that deep, as there is also the danger of being unable to move due to a strong flow of water, when you see water flowing in, evacuate immediately to a high place.

Evacuate from underground to a higher place

Evacuation could become difficult if water flows into levels underground due to flooding above ground. Go to a designated evacuation area or go to the ground level and evacuate to a sturdy building nearby that is at least two stories high. In this way, evacuate to a safer place.

Torrential Rain

Torrential rain occurs suddenly

In general, river facilities and sewerage systems in urban areas are created to withstand rainfall of 50 mm per hour. Rainfall exceeding this level could cause urban flooding. It is said that urban flooding occurs because of a river basin's lowered capacity to contain and retain water as a result of the ground being covered by asphalt pavement and the increased use of underground space. Following signs such as a growing cumulonimbus cloud, approaching black clouds, and roaring thunder, torrential rain can strike a city in an instant.

Protect yourself from torrential rain

Stay away from rivers and canals

Never approach rivers or canals when a torrential downpour occurs as there is the potential for waters to rise and a powerful flow to be generated.

Don’ t use roads below the ground level

When torrential rain occurs, do not use an underground walkway or an underpass—the road below ground level at a grade separated crossing—because they could become submerged.

Evacuate basements and semi-basements

Houses with a basement or semi-basement—housing with a floor completely or partially below ground level—are prone to becoming submerged. Doors to a basement could also become difficult to open due to pressure from the water, trapping you, so evacuate to a safer place such as the second floor.

Submerged roads are dangerous

Submerged roads and paths are dangerous because you could fall into a manhole or gutter whose cover has been displaced. If you have to go through a submerged zone, walk carefully while feeling your way with an object like an umbrella.

Sediment Disasters

Signs of an impending sediment disaster

Landslip

Signs are cracks on cliffs, small stones falling down, water welling up on cliffs, spring water stopping or becoming cloudy or muddy, being able to hear the earth rumbling, etc.

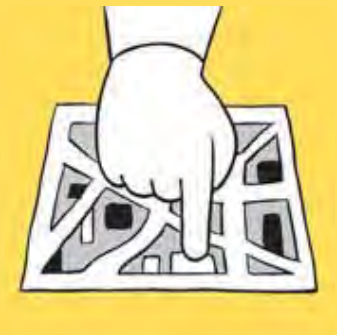
Landslide

Signs are cracks and sinkholes in the earth, the ground developing clefts and becoming uneven, water spurting from cliffs and slopes, water in wells and streams becoming cloudy or muddy, sounds of rumbling from the earth or mountain, trees leaning, etc.

Mudslide

Signs are sounds of rumbling from the mountain, river water suddenly becoming cloudy or muddy and containing driftwood, an unpleasant earthy smell, river level becoming lower despite continuous rainfall, sound of trees being torn and stones bumping into each other, etc.

Protect yourself from a sediment disaster



Confirm your evacuation area

Regularly talk with your family about your designated evacuation area and how to contact each other, and confirm your evacuation routes. When you evacuate, keep your baggage to a minimum so that you can keep your hands free.

Prepare an emergency bag

Prepare a hazard map, a map of your evacuation area, and an emergency bag. If you feel in danger, change into clothes that are easy to move around in, and be ready to evacuate any time.

Check for sediment disaster hazard areas

The Tokyo Metropolitan Government's Bureau of Construction's website provides a map of sediment disaster hazard areas with which you can search for hazard areas by region. Confirm in advance hazard areas in your neighborhood.
http://www.sabomap.jp/tokyo/ (in Japanese only)

Lightning

Lightning can be life-threatening

Lightning can be life-threatening. Although high places and tall, protruding objects attract lightning, more than half of those killed by lightning were actually in open areas such as a golf course, or under a tree taking shelter from the rain. If you hear thunder or see thunderclouds approaching, quickly move to a safe place, such as a reinforced concrete building, car, bus, or train.

Areas where you must be cautious

Open areas such as a playing field, golf course, outdoor swimming pool, riverbank, beach, and on the sea can be dangerous. You also need to be on alert when you are in a high place, such as at the top of a mountain or ridge.

Stay away from tall objects like trees

Lightning often strikes tall objects like trees and tall, protruding objects. Therefore, when you are close to a tree, especially, keep at least 2 meters away from the tree (trunk, branches and leaves).

In an open space

It is dangerous to be in an open space like a playing field, because lightning could directly strike you. Quickly move to a safe place, such as a reinforced concrete building, car, bus, or train.

If there's no safe place nearby

If you cannot find a safe place nearby, take shelter at least 4 meters away from any tall object such as a utility pole. Maintain a low posture and make sure that nothing in your possession protrudes into the air.

Tornadoes

Tornadoes can occur anywhere in Japan

Even in Japan, damage inflicted by tornadoes is occurring frequently in recent years. Although tornadoes occur at any time of year, more tornadoes are seen particularly during the typhoon season months of September and October. When a tornado forms, violent winds swirling at the center of the storm, pick up debris from the ground, including materials from buildings and signs, and turn these objects into dangerous projectiles, causing serious damage at times. To avoid danger, enter a sturdy building such as a reinforced concrete building or an underground facility and wait for the storm to pass.

Protect yourself when a tornado strikes

If you are inside

In a detached home, move to a room on the first floor that has few windows in order to avoid broken window glass and projectiles. Close the storm shutters and curtains, move away from windows, and remain under a sturdy table until the tornado passes.

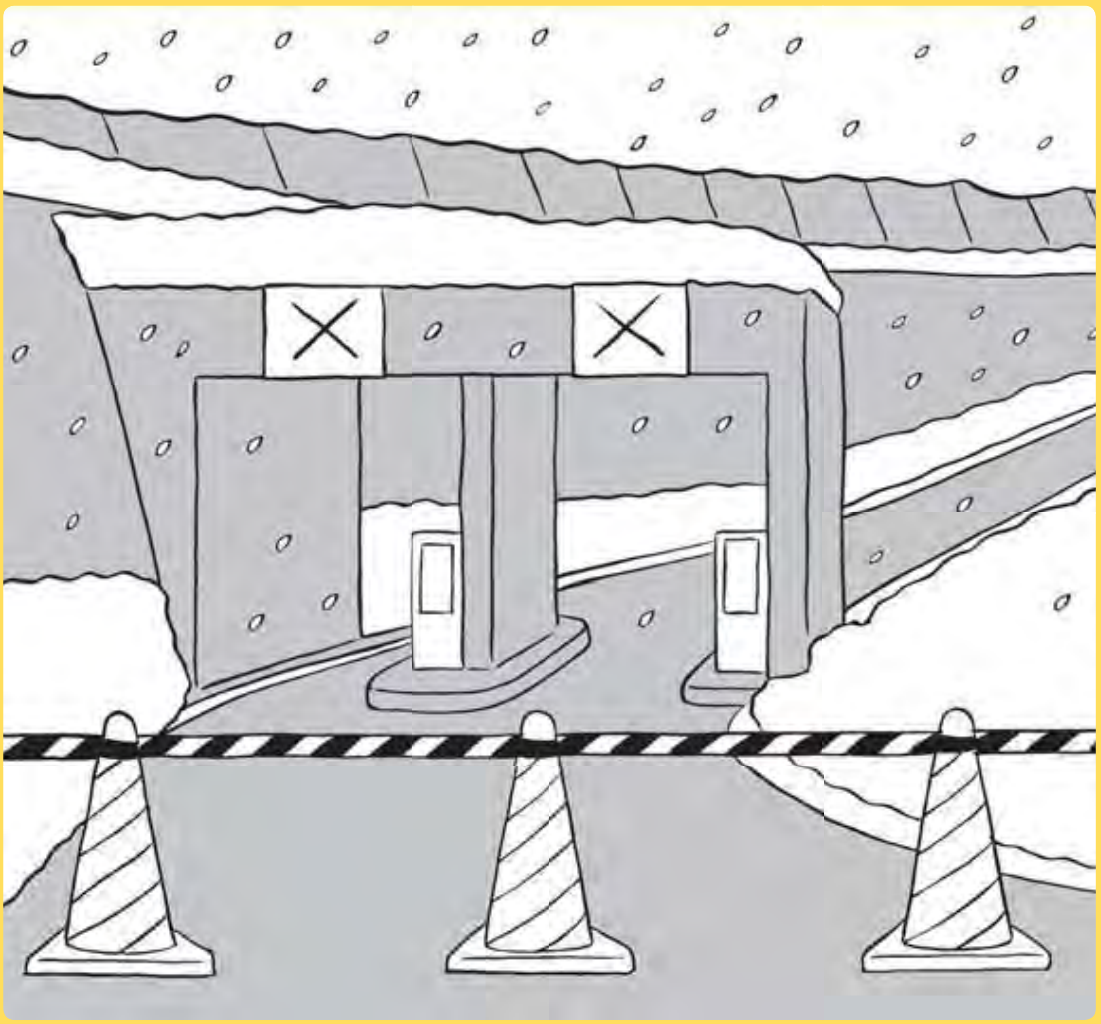
If you are outside

Move inside a sturdy building or underground facility to avoid wind gusts and objects flying through the air. In the event you are not near any of these structures, take cover or hide in a ditch, and wait for the tornado to pass.

Check the areas where tornadoes are forecast

You can check areas where there is the probability of strong wind gusts, including tornadoes, ahead of time by viewing the Radar and Nowcasts weather map on the Japan Meteorological Agency's homepage and clicking on "Tornado."
http://www.jma.go.jp/en/radnowc/

Heavy Snow



Heavy snow can paralyze a city

The Japan Meteorological Agency predicts that although snowfall frequency and amounts are decreasing, if snow does fall, there is the possibility that it will become heavy snow. When snowfall is heavy, public transportation may shut down, expressways may close, and there is even the possibility that ordinary roads will become impassable. When heavy snow is forecast, you should return home as soon as possible and avoid going out again. Heavy snowfall in February 2014 not only caused chaos for the transportation system, but also made roads in the Tama area impassable, resulting in some outlying villages becoming cut off.

Protect yourself from heavy snow

Avoid going out

If heavy snow is forecast, stockpile enough food so that you will not need to leave home, and make preparations to stay warm without electricity in case of a power failure.

Be careful not to slip

When it snows and afterwards, roads become extremely slippery. If you go outside, put on slip resistant footwear such as snow boots, and be very careful as you walk. Do not ride bicycles or use cars.

When using a car

Refrain from using a car as much as possible. If you must drive, change your tires to winter tires for use on snowy and icy roads, and prepare a shovel, boots, blanket, and emergency food. Be sure to maintain at least double the distance between vehicles that you normally would, as sudden braking and abrupt steering is extremely dangerous.

Points to be aware of when shoveling or removing snow

When shoveling snow or removing it from your roof, use equipment such as safety lines and helmets, put on slip resistant footwear, and always work in a groups of two or more. Since snow that has accumulated on the roof loosens as it melts on sunny days, take care to avoid snow that slides off the roof.

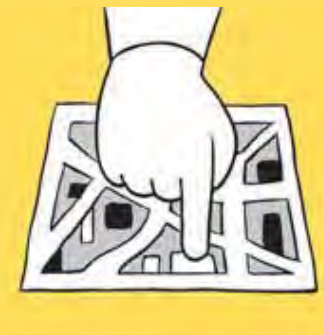
Volcanic Eruptions

Tokyo has 21 active volcanoes

Tokyo has 21 active volcanoes on its islands such as Izu Oshima and Miyakejima, and people are living on eight of those volcanic islands (Izu Oshima, Toshima, Niijima, Kozushima, Miyakejima, Mikurajima, Hachijojima, Aogashima). In recent years, eruptions on Izu Oshima in 1986 and Miyakejima in 2000, led to the evacuation of all the residents from the islands. In November 2013, a phreatomagmatic eruption was observed on Nishinoshima island of the Ogasawara islands, and the lava flow increased the island's area.

Details → p. 251

Protect yourself from a volcanic eruption



Confirm the dangerous areas on the disaster prevention map

In order to protect yourself from a volcanic disaster, it is important that you confirm the dangerous areas and evacuation centers beforehand using disaster prevention maps (shows dangerous spots, evacuation routes, evacuation centers, etc.) made public by the municipality or others.

Prepare food and items for a disaster

When a volcano erupts, the ashes may affect logistics and lifelines. Prepare drinking water, food, flashlights, extra fuel, and other necessities. It would also be better if you prepare helmets, masks and goggles as protection against dust.

Confirm the designated evacuation center beforehand

When an evacuation order or advisory is issued due to a volcanic eruption, quickly evacuate to the municipal government's designated evacuation center. Confirm in advance the location of the designated evacuation center nearest to you.

Don't overlook volcanic warnings

When the Meteorological Agency announces a volcanic warning, restrictions on mountain entry, evacuation orders and evacuation advisories will be issued. Follow the instructions. If you feel even slightly endangered, evacuate.

If an eruption occurs

Put on protective headwear such as a helmet, and while taking steps to prevent yourself from inhaling volcanic ash and gases such as holding a towel to your mouth, quickly move away from the mouth of the volcano.

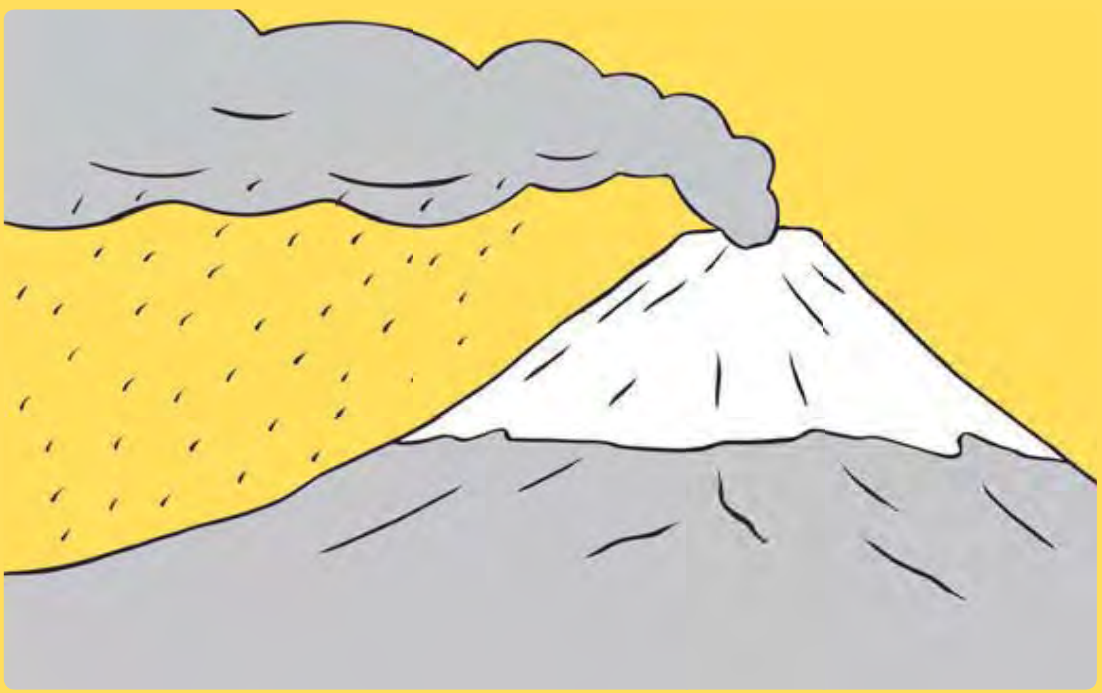
Volcanic alert level

The volcanic alert levels in volcanic forecasts/warnings are classified from 1 to 5 according to the degree of danger. Take actions suitable to the level.

Level 5	Evacuate from the residential area
Level 4	Prepare to evacuate from the residential area
Level 3	Do not enter the danger zone near the residential area
Level 2	Do not enter the area around the crater
Level 1	No special response is necessary but caution is required

Be careful of volcanic ash

When the volcano erupts, volcanic ash will fall along with large and small cinders. Breathing in ash will affect the respiratory system causing coughing or breathing difficulties, and will also cause eyes to become itchy, painful or bloodshot. Protect yourself with dust masks and goggles. Since volcanic ash could also cause malfunctioning of the sewage system, do not flush ashes down the sewer.



Risk of Mt. Fuji erupting and expected damage

If Mt. Fuji erupts as it did in 1707, volcanic ash will fall on a wide area of the Kanto region, and it is estimated that a few centimeters to 10 centimeters of ash will fall on Tokyo. Ashes will not only affect the transportation system, lifelines, and the agriculture, forestry, and fisheries industries, but could also affect health. If Mt. Fuji erupts, confirm the ash fallout forecasts on the Meteorological Agency website and others, and make preparations in advance if you are in an area that will have a large volume of ash fallout.

Terrorist and Armed Attacks

Danger of terrorist and armed attacks

As Tokyo is the center of government and economy, it could become the target of terrorist and armed attacks. The Act Concerning the Measures for Protection of the People in Armed Attack Situations, etc. ("Civil Protection Act," Act No. 112 of 2004) was enacted with the aim of protecting the lives and assets of the citizens of Japan. Based on this act, in the event of an attack, the public will be warned through the municipalities' wireless emergency alert systems. Make a note to listen to information broadcast over the TV, radio, and from publicity cars as well, and follow the instructions.

Attack by insurgents or special forces

Such an attack can result in sudden, unpredictable damages. If the target of an attack is a nuclear facility, the damages could be huge.

Missile attack

It would be extremely difficult to identify the target of the attack, and it is estimated that the time to impact will be short.

Landing invasion and air attacks

In an invasion, landing operations are likely to target the coastal areas, and air attacks are also assumed to target major facilities in urban areas.

Attacks using chemical agents, etc.

Attacks using chemical or biological agents, or nuclear materials will have health effects, requiring special response.

Protect yourself from a terrorist or armed attack

If an explosion occurs

If an explosion occurs, quickly get low and hide under something like a sturdy table. Explosions could continue, so evacuate to a safe place.

If a fire breaks out

If a fire breaks out due to a terrorist or armed attack, cover your mouth and nose with a handkerchief, etc., to keep from inhaling smoke, and quickly evacuate while keeping yourself as low as possible.

If you're trapped

Tap on pipes or other things nearby to let others know where you are. Calling out loudly for help should be the last resort since this could cause dust to be breathed in.

Evacuation from an attack by insurgents

Damages from an attack by insurgents will generally be limited to a relatively small area, but the damages may spread. First evacuate indoors and then follow the instructions of the authorities.

Evacuation from a missile attack

Since it will be difficult to identify the area where the missiles will hit, if you are outdoors, evacuate into a strong building, underground shopping area, or other indoor areas nearby. Afterwards, follow the instructions of the authorities.

Evacuation from chemical or biological attacks

Cover your mouth and nose with a handkerchief, and leave the area immediately. Evacuate to a safe place that is unlikely to become contaminated such as a closed-off place indoors or high ground upwind.

Evacuation from a nuclear explosion or radioactive contamination

If there is a nuclear explosion, hide behind cover and evacuate to an underground facility or strong building. An explosive called a “dirty bomb” will cause radioactive contamination of the area. Follow the instructions of the authorities and consult a physician.

Infectious Diseases

If an epidemic is forecasted

Infections occur when pathogens such as viruses or bacteria enter your body and multiply, resulting in symptoms such as fever, diarrhea, and cough. Infectious diseases from influenza to Ebola virus disease, from those with relatively mild symptoms to those with a high risk of death, are designated under the Act on Prevention of Infectious Diseases and Medical Care for Patients Suffering Infectious Diseases (Act No. 114 of 1998). If proper response is not taken, these diseases can spread rapidly in Tokyo with its high population density. If you think you might be infected, immediately get proper treatment at a medical institution.

Protect yourself from infection

Wash your hands and gargle

Washing your hands and gargling are fundamental to prevent infection. Wash your hands thoroughly with soap, including your fingertips and under your nails.

Wear gloves

Use gloves to protect yourself when you might come in contact with a patient's blood, body fluids, secretions, excreta, etc.

Use a mask

Wear a mask when you are coughing or sneezing so that you do not infect others.

Pay attention to your health after returning from abroad

If you feel unwell after returning from abroad, there is the risk that you have contracted an infectious disease. Be careful if you have symptoms such as diarrhea or fever after your return. Go to a medical institution as soon as possible. Inform the doctor of details such as the travel destination, itinerary, and activity during the trip, and follow the doctor's instructions.

Know the danger of a pandemic

A pandemic is a global epidemic of an infectious disease. The WHO (World Health Organization) classifies pandemics into six phases according to its spread. If you hear about a pandemic on TV or other sources, avoid going out unless it is essential or going to places that attract crowds. Schools and other facilities may be closed.

Details → p. 265

Symptoms of major infectious diseases and response

Influenza

General symptoms (e.g. headache, joint and muscle pains) and specific local symptoms (e.g. sore throat, runny nose, sneezing, cough) suddenly appear, and it can be fatal. If influenza anti-viral drugs are first taken within 48 hours of the onset of symptoms, a reduction of the symptoms can be expected. Go to a medical institution as soon as possible.

Measles

Some 10 to 20 days after infection, a fever of about 38 degrees Celsius or common cold symptoms continue for about 2 to 3 days, followed by a high fever of over 39 degrees Celsius and the appearance of a rash. This could become serious if the patient develops encephalitis. Since the body's immune system is weakened, the patient could also develop pneumonia or an ear infection. As there is no specific treatment for this disease, treatment is given to lighten the symptoms.

Norovirus

The main symptoms are nausea, vomiting, diarrhea, stomach pain, and a slight fever. After these symptoms continue for about one to two days, the disease is cured with no aftereffects. However, in children or the elderly, the symptoms could become serious, with the possibility of death resulting from accidentally choking on vomit. As there is no specific treatment for this disease, symptomatic treatment such as intravenous fluids is given.

Tuberculosis

Even now, over 20,000 people contract this disease each year. Go to a medical institution as soon as possible if coughing or phlegm continues for over two weeks or, in the case of senior citizens, if ailments such as fatigue or loss of appetite continue. If you are diagnosed to have tuberculosis, in most cases this can be cured if medicine is properly taken every day for six months.

Avian flu

You could become infected if you have close contact with a bird with avian flu. Symptoms such as high fever and cough will appear if you are infected. This could rapidly cause multiple organ dysfunctions, and result in death. If you have had contact with a bird with avian flu and have symptoms that could be influenza, see a doctor and inform him/her of the situation.

Ebola virus disease

Symptoms such as sudden fever, headache, fatigue, muscle pain, sore throat, vomiting, diarrhea, chest pain, and bleeding (blood in vomit, blood in stool) appear. As there is no specific treatment for this disease, treatment for the symptoms will be given. If you come down with a fever within about a month after returning from a country where this disease was spreading, do not go to a local medical institution, but contact the public health center and follow its instructions.

column

Tokyo's active volcanoes with magma activity

Nothing to fear if you can grasp the warning signs

Magma is active on a volcanic island

Tokyo has 21 active volcanoes. Eight of these volcanic islands (Oshima, Toshima, Niijima, Kozushima, Miyakejima, Mikurajima, Hachijojima, and Aogashima) are inhabited by a total of 30,000 residents and many tourists visit as well.

High levels of volcanic activity can be observed on Oshima and Miyakejima (see p. 251), and the volcano on Hachijojima almost erupted in 2002. And earthquake and tectonic movements are still observed on Niijima and Kozushima. Even if movements cannot be felt on the surface, magma is steadily building up power underground.

1986 Izu Oshima ©T. Miyazaki (top);
2000 Miyakejima (bottom)

Become conscious of warning signs of an eruption

But there is no need to always live in fear. Unlike earthquakes, warning signs of an eruption can be seen in almost all cases. When volcanic activity builds up, phenomenon that cannot be captured by a seismograph occur. Noticing such signs will allow safe evacuation.

For instance, residents living near a volcano might notice smoke, sounds, smells and other conditions that are different from usual. If they contact the municipal office right away when they notice such things that are out of the ordinary, the authorities can bolster their observations and prepare for an eruption. Moreover, it would be desirable for people to gain "literacy" on volcanoes such as using a disaster protection map to decide where to evacuate if it becomes necessary.

(talk by Hidefumi Watanabe, Professor Emeritus, University of Tokyo)

Disaster Preparedness Quiz

Q 1 What is the difference between an advisory, warning, and emergency warning for heavy rain or strong wind issued by the Japan Meteorological Agency?
Answer → p. 145

Q 2 What types of places are easily affected by heavy rain or typhoons and require special caution?
Answer → p. 147

Q 3 What areas should you not approach during torrential rain?
Answer → p. 151

Q 4 Name three warning signs of a sediment disaster.
Answer → p. 152

Q 5 When you are in an open space such as a playing field, how can you protect yourself from lightning?
Answer → p. 155

Q 6 What time of the year should you be cautious of tornadoes, and what should you do to protect yourself from them?
Answer → p. 156

Q 7 What should you do when a heavy snow forecast is issued?
Answer → p. 159

Q 8 How many active volcanoes are there in Tokyo?
Answer → p. 160

Q 9 What is the name of the law to protect the public from terrorist and armed attacks?
Answer → p. 164

Q10 What is the word used when an infectious disease spreads over a wide area?
Answer → p. 170

Emergency
P. 176

Sanitation
P. 198

Life
P. 206

Confirm Safety
P. 226

4

Survival Tips

In the event of a disaster, water supply, gas and power lines may all come to a stop. You will be unable to get your hands on almost all the things you need for daily life. You will have to live for about three days to one week on just limited resources. In this chapter, we have collected various types of knowledge and ingenuity that will be useful when a disaster occurs, and use illustrations to explain them in an easy-to-understand manner. Why not also take up the challenge of holding a practical workshop as explained at the end of the chapter?

Cardiopulmonary Resuscitation (CPR)

1

Check to see if the person is conscious

In the event of a disaster, ambulances will probably be late in arriving. If you find a person who has collapsed, gently tap him on the shoulder and ask loudly, “Are you OK?” Check to see if he responds, can move his hands and feet, if he is in pain from injuries, and whether he is conscious or not.

2

Request cooperation from others around you

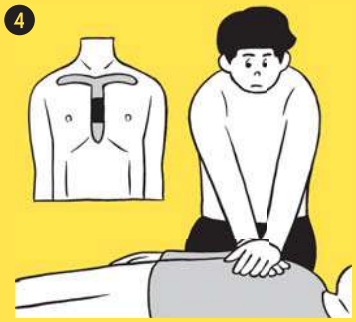
If there is no response, request the cooperation of people nearby by calling out in a large voice, “Someone, please come! There’s a person here who needs help!” In addition, if the situation is safe, request someone to bring an AED (automatic external defibrillator) and give first aid.

3

Check for breathing

Closely observe the movements of the person’s chest and abdomen, and confirm within 10 seconds if his breathing is irregular. When there is no movement of the chest or abdomen, you can determine that the person is not breathing normally, and then begin chest compressions.

4



Chest compression

Place your hands on the center of the person’s chest, and press the chest down at least 5 centimeters for an adult. Do about 100 compressions per minute. When you are conducting both chest compressions and artificial respiration, conduct cycles of 30 chest compressions and 2 breaths.

5

Artificial respiration

Lift the person’s chin to open the airway, and use the thumb and forefinger of your hand placed on his forehead to pinch his nose. Using a mouth-to-mouth resuscitation mouthpiece*, cover the mouth so no air leaks, and breathe in for about 1 second. Check to see that his chest rises when you do so.

6

AED

Press the power button of the AED. Apply the electrode pads to his chest, and if a shock is needed the AED will inform you with a voice prompt. Stand clear of the person and push the AED’s button. Follow the device’s instruction and immediately resume chest compressions.

* The risk of infection is said to be extremely low even when a mouthpiece is not used, however, from the perspective of preventing infection, it would be safer to use one.

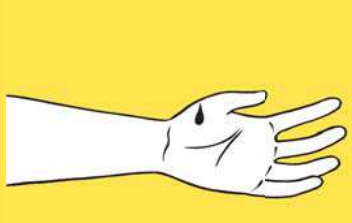
Stop Bleeding

Arterial bleeding

Blood spurts out

Venous bleeding

Constant flow of blood



Capillary bleeding

Blood oozes out slowly

Severe bleeding can be life threatening

The total amount of blood in the human body makes up about 7 to 8 percent of the body's weight, and losing one-third of this blood can be life threatening. Arterial bleeding with bright red spurts of blood must be stopped immediately. Bleeding from capillary veins will, in most cases, stop naturally.

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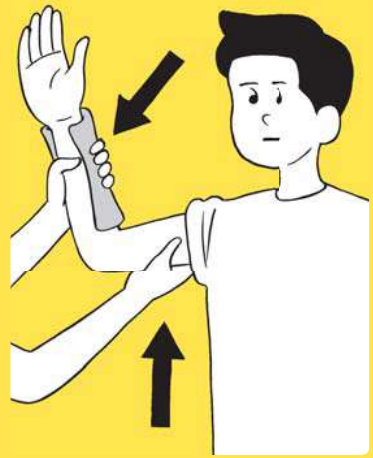
Direct pressure to stop bleeding

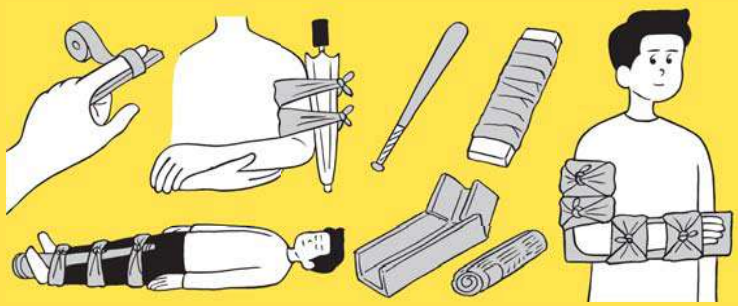
Directly apply sterile gauze or a clean cloth to the bleeding and compress strongly with your hand or a bandage. The size of the cloth should be large enough to completely cover the wound. In order to prevent infection, always wear rubber gloves or use a plastic bag, and be careful to not come in contact with the blood.



Indirect pressure to stop bleeding

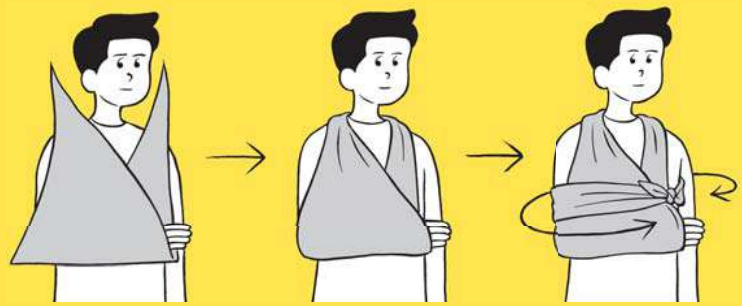
When it is difficult to stop the bleeding through the direct pressure method, try indirect pressure. Temporarily stop the flow of blood by pressing down on the artery between the injury and the heart, compressing it against the bone. For bleeding from the lower portion of the arm, use your thumb to strongly press the artery at the center of the inner side of the upper arm. For leg bleeding, straighten the bleeding leg and strongly press down at the groin using your fist.

First-Aid for Fractures and Sprains



Secure with a splint

Try not to move the part that has been broken and is painful. Prepare something that can serve as a splint to support the broken bone, and immobilize the injury by binding the splint and the joints on both sides of the fracture with a cloth, etc.



Triangular bandage

A triangular bandage can be used on any part of the body, and scarves, furoshiki, and large handkerchiefs can also serve as triangular bandages. Use it after rinsing the wound clean with water and applying a sterile gauze, etc. Do not tie the knot right over the wound.

First-Aid for Cuts

Materials	Cloth, bandages, water, sterile gauze

1

Prepare large pieces of cloth or bandages that can cover the wound.

2

If the wound has dirt or other debris, wash clean with water.

3

If the wound is bleeding, protect the wound by applying sterile gauze, etc.

4

Wrap a bandage.

First-Aid for Burns

Cool minor burns with water

If the burn covers less than 10 percent of the body (the area of the palm of your hand is about 1 percent of the body surface), as soon as possible, cool with clean water for over 15 minutes until the pain eases.

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Important points

Since tap water cannot be used when the water supply is cut off, use water from a plastic bottle, etc. When tap water can be used, run cool water over the burn for 15 to 20 minutes. Follow the points below when treating the burn.

- If the person is wearing clothes over the burn, do not remove, and cool over the clothes.
- When the burn covers a wide area, take care to not overly cool the body.
- Take care not to break blisters.
- Do not use medicine.

Lighten the Burden of the Injured and Ill

Loosen clothing

Place the person in a comfortable position, ask if he is in pain, and if he wishes, gently loosen his clothes, belt, and other constricting items.

Maintain body temperature

If the person has the chills, a low body temperature, is pale, or has broken into a cold sweat, prevent heat loss by covering him with clothes, a blanket, etc.

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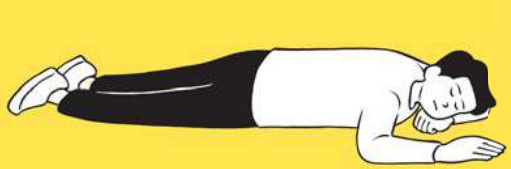
Safely Positioning the Injured or Ill

The basic position is laying face up

Laying the person on his back on a level place is the basic position to take. It is the most stable and relaxing position.



When the person is vomiting or has an injury to the back

Lay the person on his stomach, facing one side. Take care that he does not choke on his vomit.

When there is a head injury and breathing is labored

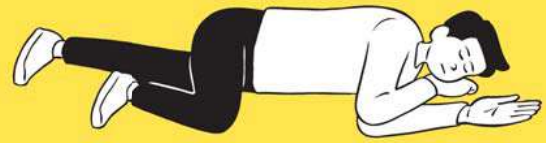
Lay the person on his back and use cushions, etc., to lift the upper body.

When there is abdominal pain or an injury to the abdomen

Raise the upper body with cushions, etc., and also place cushions under the knees to bend them.

When breathing is labored or there are chest pains

Put the person in a sitting position with his legs extended and place cushions, etc., between his legs and chest to support his upper body.



Is breathing but unconscious

To secure an airway, place the person on his side with his top leg bent at a right angle at the knee.

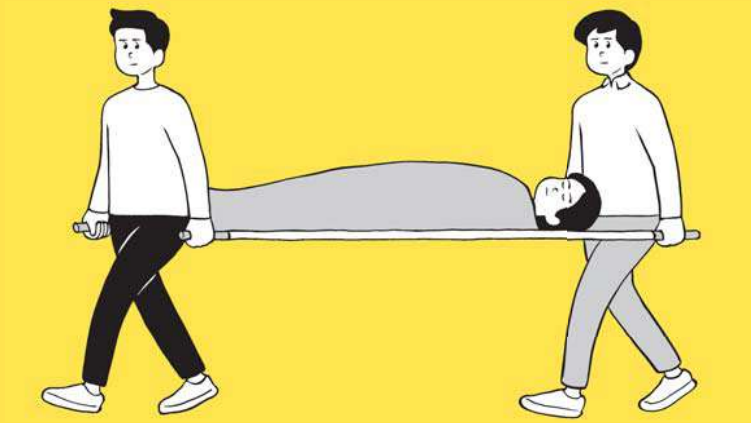
Heat stroke, anemia, hemorrhagic shock

Lay the person face up and place cushions under his feet to lift the legs up about 15 to 30 centimeters.

Transporting the Injured or Ill

Carrying on your back

Lean the person on your back and catch his legs by passing your hands under his knees, and hold both of his arms firmly. This is not suited to injured people who have disorders of consciousness, broken bones, or internal injuries.



Using a stretcher, etc.

When carrying a person on a stretcher, have his legs point forward and try to avoid shaking the stretcher or causing it to vibrate. This is very important to prevent the condition of the victim from worsening. If there is no stretcher, it would be possible to use a strong plank, etc., instead.

Bandage Substitutes

Materials	Gauze, tights

❶

Use tights as a substitute for a bandage. First, place gauze, etc., over the wound and then cover with the body portion of the tights.

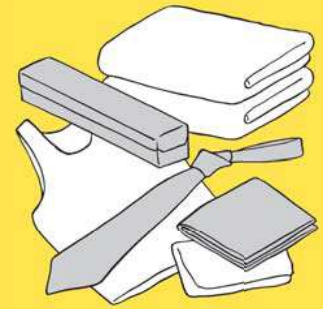
❷

Wind the leg portion of the tights around the head and tie the ends. If this is washed and kept clean, it can be used repeatedly.

Other items that can substitute for bandages

Bandanna	Curtains
Handkerchief	Underwear
Tenugui towels	Disposable diapers
Necktie	Sanitary napkins
Towel	Plastic wrap

*only items that are clean



How to Use the Fire Extinguisher

1

First response firefighting is very important in a disaster. When using a fire extinguisher, first confirm the source of fire. Stand so the exit is behind you.

2

Remove the safety pin on the top of the extinguisher.

3

Hold the nozzle and aim it at the flame.

4

Squeeze the handle and spray the agent directly on the source of fire. If the flames reach the ceiling, stop trying to extinguish the fire and evacuate.

How to Use the Indoor Fire Hose

Note	The No. 1 model fire hose is to be manned by more than one person. Here it is assumed that there are two people.

1

Press the start button. When the red light starts to blink, the pump will begin operating.

2

Open the cabinet and extend the hose.

3

The other person opens the valve.

4

Aim the nozzle at the source of the fire and spray water.

How to Use the Standpipe

Note	This is a fire extinguishing tool that uses the fire hydrant or drain valve in the road. Prior training is required to use it.

1

This is effective in places like narrow roads inaccessible by fire trucks. First, insert the key, bend your knees to take a low position, and lift the lid.

2

Join the standpipe to the water outlet. Turn the spindle driver, and after confirming that water is flowing, extend the hose joined to the pipe.

3

Join the hose to the nozzle. Insert it firmly until you hear a noise.

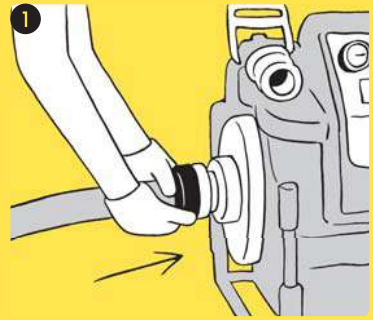
4

Straighten the hose, and after signaling, spray the water. Point the nozzle at the target, and hold it firmly at the height of your hip.

How to Use the Portable Fire Pump

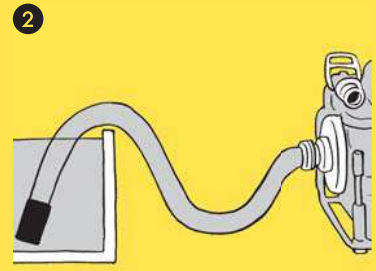
Note	This is to be manned by more than one person. Prior training is required to use it.

1



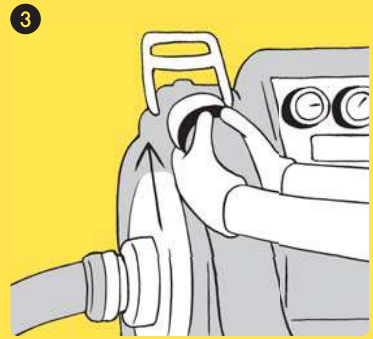
This is a fire pump of a size that can be carried by people. First, close the drain cock and water hose outlet valve, and attach the suction pipe to the pump's water inlet.

2



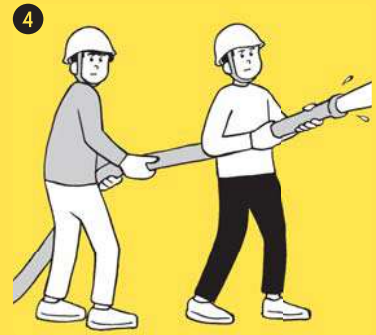
Place the suction pipe in a fire cistern, pool, etc.

3



Start the pump, attach the hose to the outlet, and extend the hose to the source of fire.

4



Spray water in the direction of the fire source.

Warm Yourself with Newspapers

Make something to wear

Newspapers can be useful when you aren't wearing enough to keep warm. Place several layers of newspapers on your shoulders, binding them at the front with tape, etc.

Layer with socks

When your feet are cold, wrap newspaper over your socks, and put on another pair of socks over them.

Other useful items

To wear:
- Fruit protection net
- Aluminum foil
- Plastic wrap
- Handkerchief
- Bubble wrap

To put on the floor:
- Cardboard
- Styrene foam

Use with a plastic bag

Crumple newspaper into balls, place them in a large plastic bag, and put your feet inside. It will be warmer if you loosely close the mouth of the bag.

Make a "haramaki" belly warming band

You can also warm your body by wearing a belly band. Use two sheets of newspaper and plastic wrap. Fold the newspaper in half and wrap around your abdomen, and then wind plastic wrap on top.

Use the effects of color to adjust your body temperature

It is said that when people look at warm colors like red, their temperatures rise, and when they see cool colors like blue, their temperatures drop. Try using this effect in selecting your clothes or the color of partitions at the evacuation center.

Adjust Your Body Temperature

You can adjust your body temperature by heating or cooling the back of your neck, under your arms, and above your tailbone. Use this method to keep warm or prevent heat stroke.

Back of the neck

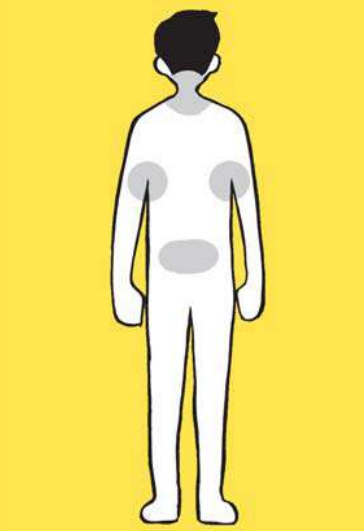
Just wrapping a muffler around the point on the back of your neck that improves blood circulation will significantly help maintain your body temperature. It would also be effective to cool this point when it's hot.

Underarms

Because there is a large artery near the surface, warming or cooling this area will have effects on your whole body.

Above the tailbone

Adjusting the temperature above the tailbone is an easy way to adjust your body temperature.



Make a hot water bottle

Materials	Plastic bottle, water, hot water, funnel, container such as a bucket, towel

Mix equal portions of tap water and boiling water to make lukewarm water about 60 degrees Celsius. Pour this into a strong plastic bottle, and wrap in a towel to prevent low-temperature burns.

Warm/cool your neck

Wrap a muffler or towel around your neck when you are cold. If you are hot, place an ice pack behind your neck and wrap a towel, etc.

Warm/cool your underarms

Your whole body will be warmed if you place a plastic bottle with hot water under your arm. You should place cold packs under your arms when it's hot.

Warm the area above your tailbone

Your whole body will be warmed if you apply a body warmer to the area above your tailbone. If you can obtain a body warmer, you should first use it on this area.

Protect Your Feet

Protect your feet and shoes from water

Materials	Plastic bag, string

In a disaster-stricken area where it is difficult to walk, you will need to protect your feet. To keep your shoes from getting wet, cover each shoe with a plastic bag and tie it up with string around the ankles.

Protect your feet and shoes from rubble

Materials	Plastic bag, board, string

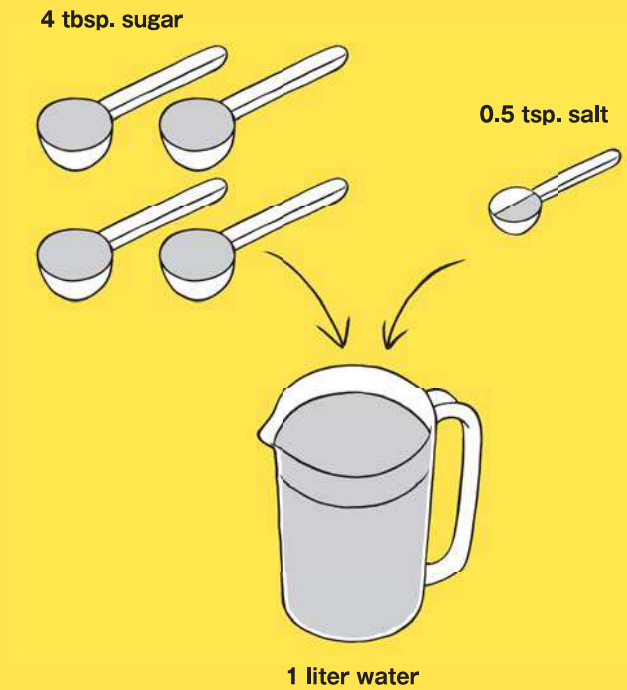
After placing plastic bags over your shoes as explained above, place something hard like a board under your shoes and tie it with a string so it doesn't loosen.

Why protect your feet?

In the event of a disaster it would be very important for you to not injure yourself. The disaster-stricken area will be strewn with rubble, have puddles of water, and will be harder to walk through than you can imagine. In order to prevent injury from nails and sharp materials, you should learn in advance how to protect your feet.

Prevent Dehydration

Materials	Water, sugar, salt

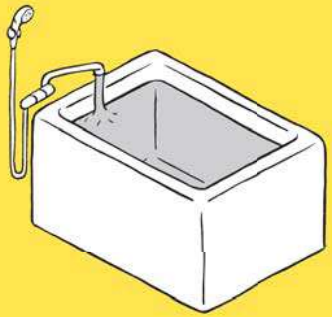


In order to prevent dehydration, it would be good to prepare an oral rehydration solution, which has an absorption rate that is about 25 times higher than water. The only things necessary are water, sugar and salt. Dissolve 4 tablespoons of sugar (about 40 grams) and 0.5 teaspoons of salt (about 4 grams) in 1 liter of water.

How to Store Water

Store as drinking water

When storing water, fill tap water up to the mouth of a clean container such as a plastic bottle. If you store it away from direct sunlight, it can be used as drinking water for about three days. However, you will have to change the water every day if the water has passed through a water purifier as this will have removed chlorine and its disinfecting effects.



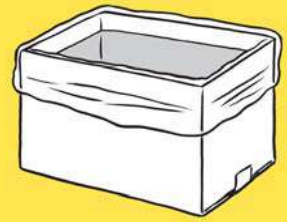
Store as domestic water

The bathtub at general households can hold about 180 liters of water. If water is stored in the bathtub, it can be used for domestic purposes such as laundry, cleaning, toilets and sprinkling.

How to Carry Water

Items to carry water easily

A polyethylene tank and carrying cart will be convenient in carrying water from a water supply point. Putting water in plastic bottles and carrying them in backpacks, etc., will also help when walking over rough roads.



Using plastic bags and cardboard boxes

Materials	Cardboard box, plastic bag, adhesive tape

When you do not have a polyethylene tank or plastic bottles, spread a polyethylene bag inside a cardboard box, and firmly reinforce this by taping cloth adhesive tape on the bottom and sides before use.

Using plastic bags and furoshiki wrapping cloth

Materials	Plastic bag, furoshiki wrapping cloth

Place water in a plastic bag and tie the mouth. Place this in the center of a furoshiki wrapping cloth that has its adjacent corners tied together. If two people each hold one of the knots, the water can be easily carried.

How to Use the Toilet When Water Supply Is Cut Off

Western toilet

For a western toilet, if the toilet can be flushed even though the water supply is interrupted, you can do this by pouring about a bucket of water into the toilet bowl. Don't flush urine every time, and don't flush down toilet paper but throw it away as trash.

Japanese toilet

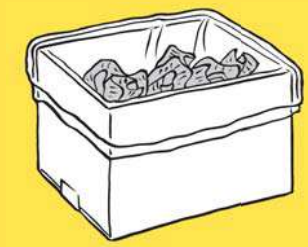
For a Japanese toilet, if the toilet can be flushed even though the water supply is interrupted, you can do this by pouring a bucket of water all at once into the toilet bowl while pressing down the flush lever. Don't flush down toilet paper but throw it away as trash.

How to Make an Emergency Toilet

Existing toilet that can't be flushed

Materials	Plastic bags, newspaper

Lift the toilet seat, and cover the toilet bowl with a plastic bag. Use a second plastic bag to cover the toilet seat, and place torn pieces of newspaper in the bag.



Portable emergency toilet

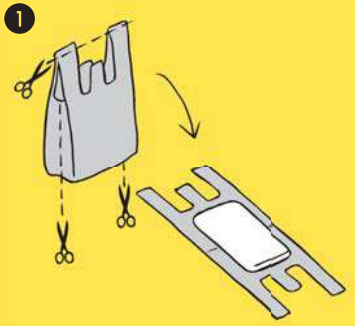
Materials	Large bucket (or cardboard box), plastic bags, newspaper

Place two plastic bags inside the large bucket or cardboard box, and place torn pieces of newspaper in the bag. After using the toilet, remove the top plastic bag and take it to a designated area.

How to Make Emergency Diapers

Materials	Plastic supermarket bag, cotton cloth (or towel), scissors

1



Cut the top of the grip portion and both sides of a large plastic supermarket bag, and open it. Fold a clean cotton cloth or towel on top of this.

2

Lay the baby down with his bottom on top of the cloth, and tie the upper grip portions over his stomach.

3

Lift the lower grip portions and pass them under the tie around the baby's stomach.

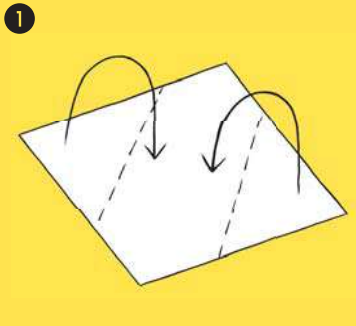
4

Fold the surplus part of the bag down.

How to Make a Cloth Sanitary Napkin

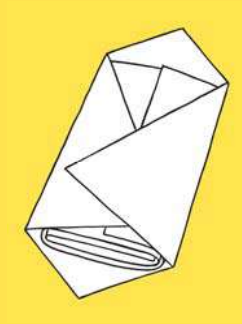
Materials	Towel handkerchief, tissue paper (or cloth)

1



Fold the two diagonal corners of a towel handkerchief (a clean, cotton towel handkerchief would be best) to a size that fits your underwear.

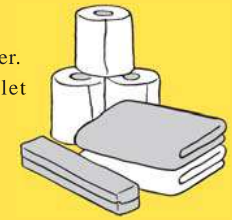
2



If tissue paper or cloth is available, put some inside. You can rest assured at night if the napkin is worn with the wider side in the back.

Other items that can replace sanitary napkins

- Wrap your underwear with plastic wrap.
- Use folded pieces of toilet paper or tissue paper.
- If you have just one napkin left, place toilet paper on top of it.
- Use clean towels or cloth that can be thrown away after use.



Keep Clean with Little Water

Wipe your body with a small amount of water

Materials	Towel, no-rinse or non-residue soap

If you wipe your body with a towel using a no-rinse or non-residue soap (can be purchased at a drug store, etc.), you can keep clean with little water.

Brush your teeth without a toothbrush

Materials	Gauze, tissue paper

Wrap a piece of gauze about 15x15cm large, or tissue paper around your finger, and scrub your teeth until they feel clean. Also wipe your gums and tongue, and then rinse your mouth with water.

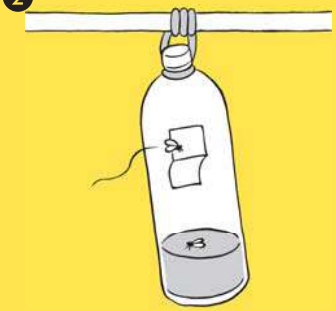
Make a Fly Trap

Materials	Japanese sake, sugar, vinegar, plastic bottle, string, box cutter

❶

Place 70 cc of sake, 100 g of sugar, and 50 cc of vinegar in a plastic bottle, screw on the cap, and shake to mix.

❷



Open about a 3cm hole in the upper half of the bottle, and hang the bottle by a string under the eaves, from a laundry pole, etc. Flies attracted by the smell will go into the bottle and not be able to get out.

Why is a fly trap necessary?

It is predicted that there will be an outbreak of flies in the summer. In order to maintain a sanitary environment not only at home, but at the evacuation center or temporary housing as well, it is recommended that you get rid of flies by making a fly trap.

How to Make an Emergency Lantern

Use a plastic bag

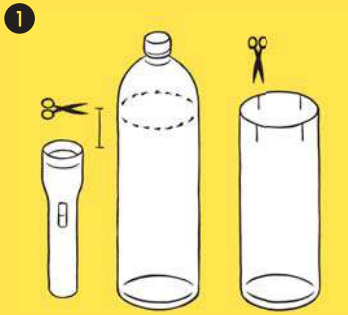
Materials	Flashlight, white plastic bag, scissors

Cover the flashlight with a white plastic bag and tie the grip portion around it. The light will gently spread through the whole bag.

Use a plastic bottle

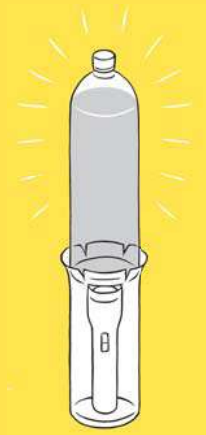
Materials	Flashlight, plastic bottle, water, scissors

❶



Cut an empty plastic bottle at a point about 5 cm higher than the flashlight, and make cuts 1 to 2 cm long at four places along the rim.

❷



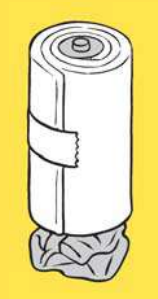
Stand the flashlight inside the cut plastic bottle, and on top of it place another plastic bottle containing water.

Change the Size of the Battery

Change an AA battery into a C battery

Materials	AA battery, cloth, cellophane tape

Cut cloth such as towels or handkerchiefs to match the height of the AA battery, and wrap it around the battery. When the diameter becomes 2.6 cm, tape it with cellophane tape.



Change an AA battery into a D battery

Materials	AA battery, cloth, aluminum foil, cellophane tape

Cut cloth such as towels or handkerchiefs to match the length of the AA battery, and wrap it around the battery. When the diameter becomes 3.4 cm, tape it with cellophane tape. Adjust the length of the battery using crumpled aluminum foil.

Substitutes for aluminum foil

Anything that can pass an electric current can be used. If you don't have aluminum foil, try using some other everyday item.

- Stack and tape together seven 1 yen coins
- Stack and tape together seven 10 yen coins

(Do not combine 1 yen and 10 yen coins.)

How to Make Plates and Eating Utensils

Make a plate from a plastic bottle

Materials	Plastic bottle, box cutter, scissors

1

Use a box cutter to cut the top off of a 2-liter plastic bottle. Be careful not to cut your hands.

2

Cut the bottle along its length. The bottom of the bottle will be too stiff to cut with the box cutter, so use a large pair of scissors.

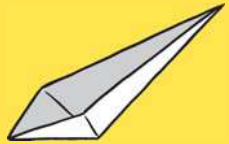
Make a spoon from a milk carton

Materials	Milk carton, scissors

1

Cut off the top triangular portion of the milk carton, and cut the carton into four pieces by cutting along its length down the center of each side.

2

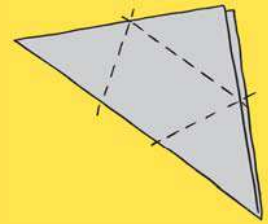


Fold the cut portion and cut along the dotted lines in the illustration, to make a spoon. By changing the angle of the cut, the depth of the spoon can be changed.

Make a dish from newspaper

Materials	Newspaper, plastic bag

1



Fold a newspaper into a triangle, and fold along the dotted line in the drawing to make a cup with a bottom.

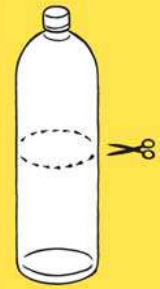
2

Place a plastic bag over the folded newspaper and tie the bottom of the bag. This can be used as plate or a cup.

Make a cup out of a plastic bottle

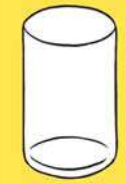
Materials	Plastic bottle, scissors (box cutter)

1



Cut the upper portion of the plastic bottle using a box cutter or scissors.

2

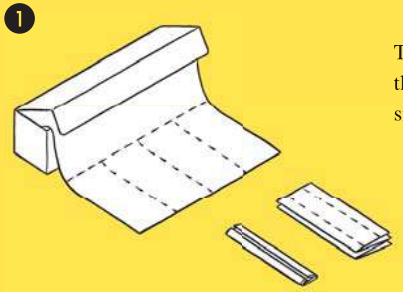


Make the cut edge as smooth as possible to prevent injury.

How to Make an Emergency Cooking Stove

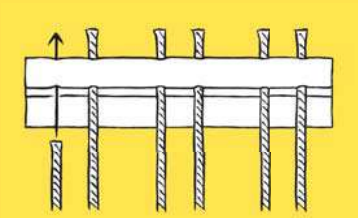
Materials	Aluminum cans, aluminum foil, string, toothpicks, scissors, vegetable oil

1



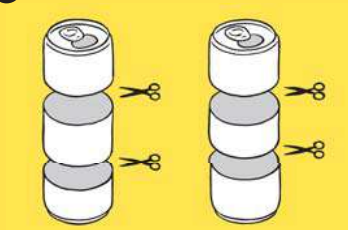
Take 17 cm of aluminum foil, and fold the sheet into four, and then fold both sides to meet in the center.

2



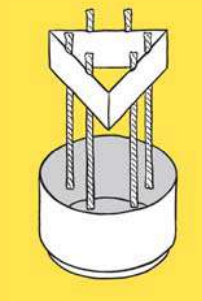
Use a tooth pick to open holes in the foil in a total of 6 places: two in the center, and two each at about 2 cm from the left and right sides. Insert 10 cm long pieces of string, and set them to emerge about 3mm from the top of the aluminum foil. If you don't have any string, twisted pieces of tissue paper can also be used.

3



Using a pair of sharp scissors, cut two aluminum cans at points 5 cm from the top and 4 cm from the bottom. Wear work gloves when you cut the cans and be careful. The 4 cm piece will be the burner and the 5 cm piece will be the trivet where pots or pans are placed

4



Bend the aluminum foil with the wicks into a triangle, and place this inside the 4 cm aluminum can. Place vegetable oil inside and let the wicks absorb the oil.

5

Complete the cooking stove by evenly spacing the 5 cm aluminum cans around the 4 cm can.

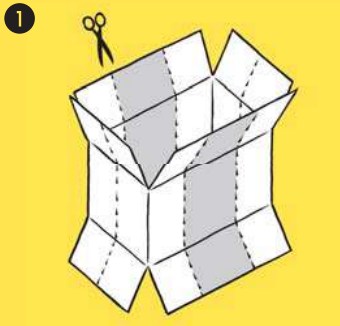
6

Adjust the position of the 5 cm cans to fit the size of the pot or pan.

Making Partitions

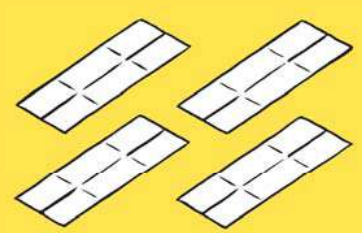
Materials	Cardboard box, tape, scissors

1



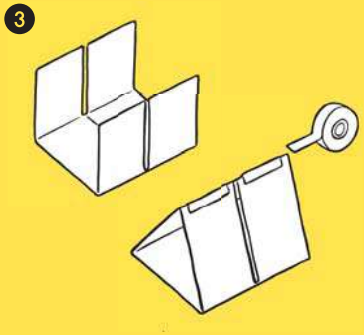
Open up a sturdy cardboard box, and cut so that the corner portion comes in the center of the left and right sides.

2



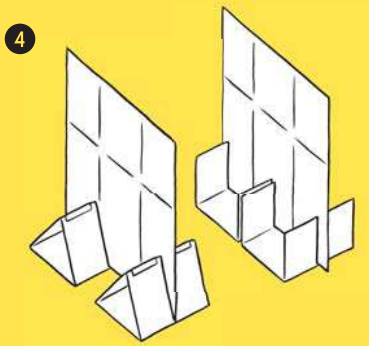
The resulting four portions will become the stands for cardboard box partitions.

3



Make triangular shapes out of these portions and tape together at the top, to create the stands.

4

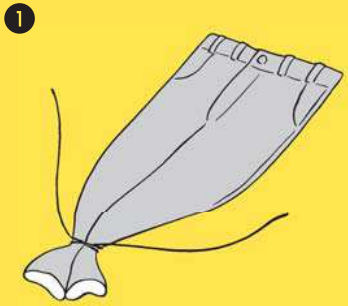


Insert other opened cardboard boxes (partitions) into the stands. The space between the stands is adjusted to fit the size of the partition box.

How to Make a Knapsack

Materials	Long pants, string (about 2 meters long)

1



Use the string to tie the bottom portion of the two legs of the pants. Tie the string so that the two ends are equal in length.

2

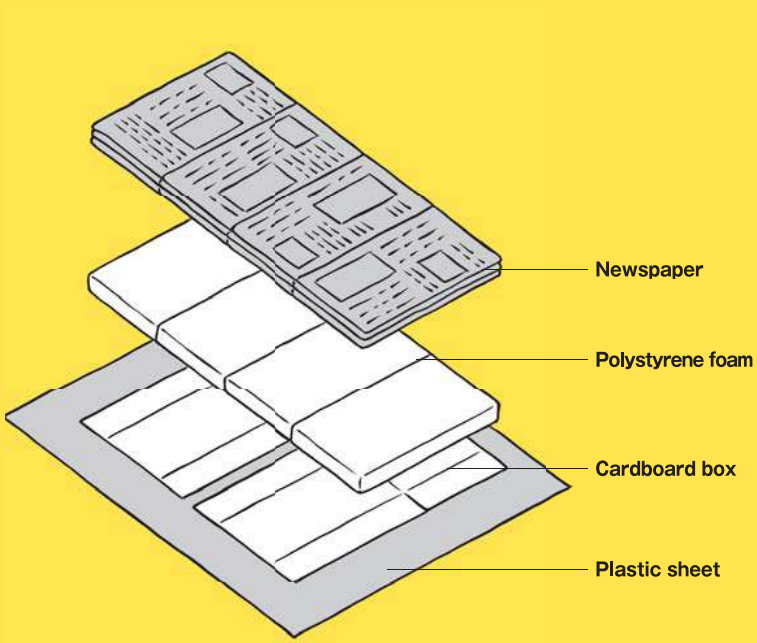
Fold the pants at around the knees, and pass the string through the belt loops.

3

Make the leg portions the shoulder straps of the knapsack so it can be carried on your back. Firmly tie the string that has been passed through the belt loop to prevent the contents from spilling out.

How to Make a Bed

Materials	Large plastic sheets, cardboard boxes, polystyrene foam, newspaper



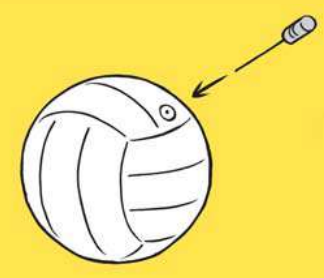
Place the plastic sheet on the floor, and place cardboard boxes and polystyrene foam on top of it. This will create a bed that is cushiony and has thermal insulation effects for protection from cold coming from the floor. Cover with newspapers.

How to Make Cushions and Pillows

Make a cushion from a plastic bag

Materials	Plastic bag, string

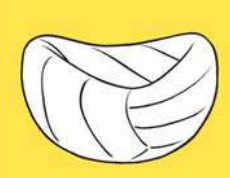
Fill one-third or one-half of a plastic bag with air. The bag can be easily filled by raising the bag and quickly lowering it. Adjust the amount of air to your preference, and close the mouth of the bag.



Use a ball as a pillow

Materials	ball

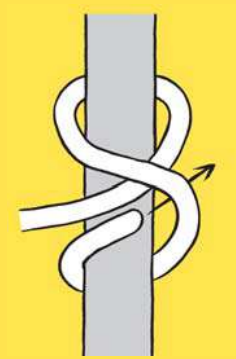
If the evacuation center is a school or gymnasium, use the balls there as pillows. Insert the inflator that is stored with the balls into the ball's hole. Remove air until you achieve the height preferred for use as a pillow.



How to Tie Ropes

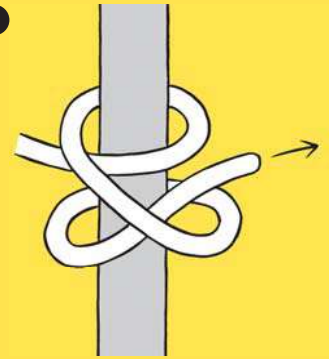
Clove hitch	Used to tie a rope to a column or pole. It is good for knots in crafts and tying small things.

1

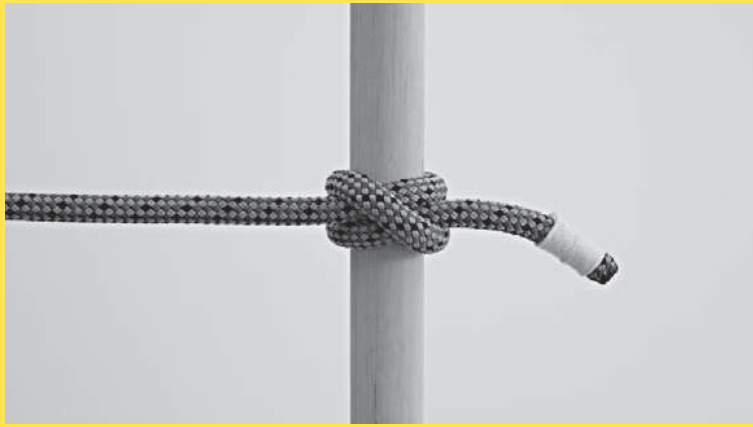


Place the rope around the pole twice. Tuck the first loop under the rope.

2

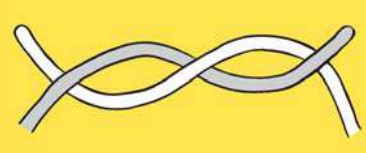


Pull the ends to firmly tighten the knot.



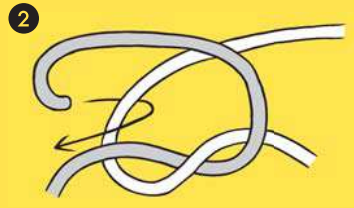
Square knot	Can be used to extend the length of a rope by tying ropes of equal thickness together, etc. Can also be used in tying triangular cloth.

1



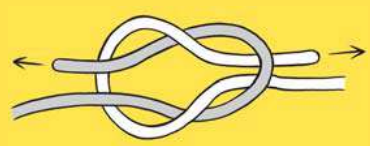
Cross two ropes

2



Bring the ends together and cross again.

3



Pull tight and make sure the knot isn't loose.

Use of ropes

If you have poles or rods and rope, you can make a clothes line that will be useful at evacuation centers or emergency housing, or in making partitions to protect your privacy.

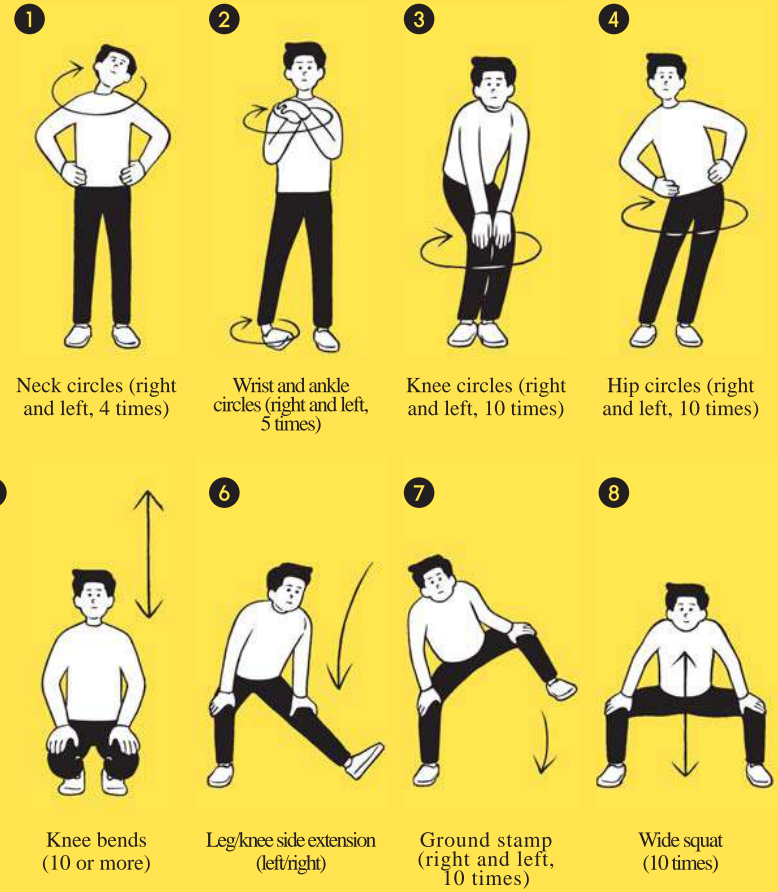
Exercises for Evacuation Life

These are exercises that people living in evacuation centers or temporary housing can do to help maintain or restore their physical and mental capabilities.

Stretch exercises (3 minutes)

1 Hands overhead
2 Side extensions (left/right)
3 Opening shoulder blades
4 Upper body twist (left/right)
5 Chest extension
6 Lower back extension
7 Leg stretch (left/right)
8 Calf/Achilles tendon (left/right)

Joint circles and bends/extensions (3 minutes)



1 Neck circles (right and left, 4 times)
2 Wrist and ankle circles (right and left, 5 times)
3 Knee circles (right and left, 10 times)
4 Hip circles (right and left, 10 times)
5 Knee bends (10 or more)
6 Leg/knee side extension (left/right)
7 Ground stamp (right and left, 10 times)
8 Wide squat (10 times)

Children Playing

A major disaster will leave mental scars on both adults and children. But while children may be smiling or quiet even when they are under great stress, it does not mean that they are okay. By playing, children will be able to reconfirm their feeling of safety, rid themselves of the stress of evacuation life, and express feelings that they are hiding deep inside (sorrow, anger, remorse, loneliness, etc.). If children can play well under the close watch of supporters, they will be able to sense that they are controlling their feelings. Devise ways for children to play that matches their age.

Hand games (small children)

Do simple hand games like “head, shoulder, knees and toes” or hand clapping games.

Rock-Paper-Scissors train

A rock-paper-scissors game that can be played by many children. First, two children do rock-paper-scissors, the one who loses stands behind the winner, and the winner does this with another person, and so on, to form “trains.”

Physical activities

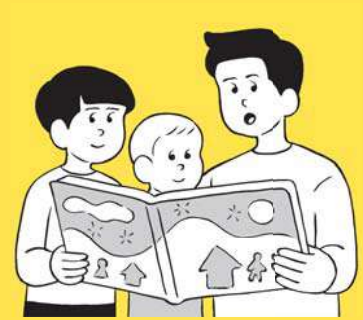
Dodgeball, baseball using hands to hit the ball, jump rope, etc.

Crafts

Making things with origami, newspaper, clay, etc.

Games that don’ t need props

Quizzes, tag, hide-and-seek, red rover, freeze tag, statues, follow the leader, etc.

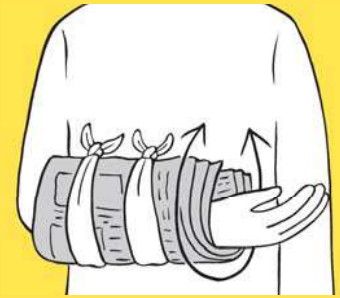


Other

Reading picture books, playing with dolls (puppets), games such as shogi, go, cards, etc.

Good Ways to Use Everyday Items

Newspapers



As a splint for fractures

Layer newspapers like a board and place this on the broken bone up to the joints on both sides.

Place in clothes for thermal insulation

If newspapers are placed between your under and outer wear when it is cold, a layer of air will be formed to keep you warm.

Use as a cover

If there are no blankets or comforters, just covering yourself with newspapers can make a big difference in keeping you warm.

Make playthings

Crumple one sheet of newspaper into a ball, and layer newspapers over this. Adjust the shape and secure firmly with tape.

Plastic Wrap

Use to keep warm

Fold two newspapers and wrap around your abdomen. Wind plastic wrap around this. This will help retain body heat and keep you warm.

Protect a wound after the bleeding has been stopped

After stopping the bleeding, wind the plastic wrap around the wound. Plastic wrap can effectively protect the wound because it is very airtight.

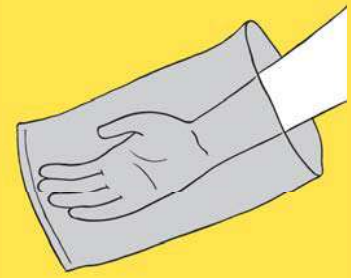
Attaching a splint

Plastic wrap is effective in attaching a splint, such as a rod or board, to a broken bone. Thoroughly wind the plastic wrap to keep the splint from moving.

Cover dishes

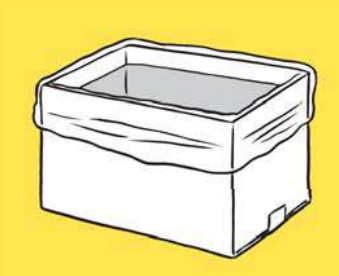
When water supply is interrupted, it is difficult to wash dishes. If food is placed on dishes that have been covered with plastic wrap, you will not have to wash the dishes.

Plastic Bags



Protect yourself from infection

In order to prevent infection from treating a wound, it is important to avoid touching blood by using rubber gloves, etc. A clean plastic bag can also be used.



Transport water in a hygienic way

If you don't have a clean plastic tank or plastic bottle, water can be transported in a hygienic way by covering a container with a plastic bag.

Cover dishes

If you cover dishes you can reduce the number of items that need to be washed. You will also run out of paper dishes if you dispose of them each time they are used, so cover them with a plastic bag.

For the toilet

When you can't use the toilet because the water supply is interrupted, use plastic bags filled with newspaper.

Refer → p. 201

Large handkerchief

As a mask

Dust is expected to fly during a disaster. Make a simple mask by covering your nose and mouth with a large handkerchief.

Attaching a splint

A large handkerchief is effective in attaching a splint, such as a rod or board, to a broken bone. Tie in several places to keep the splint from moving.

As an arm sling

After attaching a splint to a broken arm, an arm sling, using a triangular cloth, should be used to immobilize the arm. A handkerchief can be used in place of the triangular cloth.

Stop bleeding

When bleeding from an artery, use as a compression bandage to stop the bleeding.

Refer → p. 179

Disaster Emergency Message Dial

Leave a message	Listen to a message
⬇	⬇
Dial 171	
⬇	⬇
Press 1	Press 2
⬇	⬇
If you are a disaster survivor, enter your home phone number. If not, enter the phone number of the person in the disaster-stricken area whom you wish to contact, starting with the area code.	
⬇	⬇
Press 1#	Press 1#
⬇	⬇
Record your message (within 30 seconds)	Message playback begins
⬇	
Press 9# (end)	

Dial 171 and follow the voice guidance (in Japanese) to leave or play back messages. Because each recording is up to 30 seconds, prepare a brief message that contains necessary information only. Each message will be saved for 48 hours. You can practice using the service on days such as the 1st and 15th days of each month.

Disaster Message Board (Mobile Phones)

Post a message	Read a message
⬇	⬇
Choose “Disaster Message Board” on the main page	
⬇	⬇
Choose “Register Messages”	Choose “Confirm Messages”
⬇	⬇
Choose your current situation / condition (You can also enter your message)	Enter the mobile phone number of the person whom you wish to confirm the safety of (XXX)-XXX-XXX
⬇	⬇
Choose “Register” on the page	Choose “Search” on the page
⬇	⬇
Message registered	Search results displayed

This message board service is provided by mobile phone carriers to enable people to confirm the safety of each other via text messages. To use the service, visit the portal site of your carrier from your mobile phone. You can practice using the service on days such as the 1st and 15th days of each month.

Details → p. 272

workshop

Take Action to Get Your Family Prepared

Try the disaster preparedness steps outlined in this manual with your family. Here is an example of how you could use one weekend day to prepare for a disaster with your family, while also having fun.

10:00

Convene: 15 minutes

Gather your family and have each member talk about what they know about disasters and disaster prevention and what they hope to accomplish over the course of the day.

10:15

Imagine what will happen when a disaster occurs: 30 minutes

If a major earthquake occurs, what will happen to your family? To learn more about what the situation will be like, read Chapter 1 of this manual "Simulation of a Major Earthquake" with your family. Then walk around your home and have each member of your family imagine what it will be like.

Check points

- ☐ Where is a safe place to protect yourself?
- ☐ What will happen to the furniture and home appliances in the living room?
- ☐ What if you're sleeping in the bedroom?
- ☐ What if you're in the restroom or taking a bath?

10:45

Role-playing: 15 minutes

After you have imagined what the moment will be like, practice the actions outlined on pp. 17-25, assuming that a major earthquake has just occurred.

11:00

Use the map to verify your evacuation area: 30 minutes

See the accompanying map and actually go to the evacuation area in your neighborhood. Also, confirm matters such as a safe meeting place and how you will contact each other in case mobile phones and other services are interrupted. Take down this information on the pages of this manual set aside for notes. You can also use the Bosai the Rhino cartoon flip book (bottom right corner of each page) to confirm the actions you should take when a major earthquake occurs.

Things to confirm

- ☐ Your evacuation area and evacuation routes — Details → p. 115
- ☐ Where to meet up — Take notes → p. 292
- ☐ How family members will contact each other — Details → p. 128
- ☐ Contact information for you and your family — Take notes → p. 294

11:30

Discuss what your family needs to prepare for a disaster: 30 minutes

Discuss what items your family need to stockpile, and make a shopping list. See the household stockpile (pp. 86-91) and furniture stabilizing measures (pp. 96-99) sections and find the disaster preparedness measures that best suit your family. In the afternoon, take time to go shopping. Prepare a list of items necessary for your family, such as emergency supplies and furniture stabilizing devices. The pages set aside to take notes in this manual will be helpful.

Check points

- ☐ List of emergency stockpile items for your family
- ☐ List of items to be put in emergency bags
- ☐ Furniture stabilizing measures for each room of your home

12:00

Lunch and shopping: 3 hours

Have lunch and then go and buy necessary items.

15:00

Prepare: 1 hour

Decide where to locate stockpiles and emergency bags, and arrange them accordingly. Stabilize the furniture so that they will not fall, topple over, or slide. Confirm that you have not missed anything by referring to the furniture stabilizing checklist (pp. 100-103).

Check points

- ☐ Confirm the location of stockpiles
- ☐ Confirm the location of emergency bags
- ☐ Stabilizing measures appropriate for your furnishings and home appliances

16:00

Wrap-up: 15 minutes

To wrap up the day, have each member of your family give one to two minutes of feedback. Share your frank thoughts with each other so that everyone in your family will be safe if a disaster strikes.

workshop

Hold a Community Event to Prepare for a Disaster

We will introduce how to hold a hands-on event where participants can have fun learning knowledge that will be truly helpful in the event of a disaster. Why not invite neighbors or hold an event at school, and build a solid community prepared for a disaster?

Participants	3-30 people
What to bring	This manual
Hours	1.5-3 hours
Preparation	Person who will serve as a moderator
	A space large enough to accommodate the participants
Tools	Scissors, box cutters, glue, pliers, nippers
Materials	Table with a lot of materials on it
	(Refer to pp. 234-235 for exercise samples and materials to prepare.)

Program 1: Imagine the moment

Read the experience of survivors: 15 minutes

First, have all the participants read the experience of earthquake survivors. It is important that everyone is aware of what it is really like to experience an earthquake.

Experience → p. 72

Opening: 15 minutes

Ask the participants to separate into teams consisting of four or less people each. If possible, place people who have never talked to each other on the same team. After they are divided into teams, have the members of each team share their names, occupations, and what they thought about the experience of survivors, allowing each to talk for about three minutes.

Program 2: Hands-on experience

This is the main event. Use this manual to practice solving problems that will occur when a disaster strikes.

Practice solving problems that occur when a disaster strikes: 15 minutes for each exercise

1. Present a problem

The moderator presents the first problem.

Exercise samples → pp. 234-235

2. Teams look for solutions

Members of each team cooperate with each other to solve the problem, using the contents of this manual and various materials.

3. Each team presents a solution

When the problem is solved, a team member raises his/her hand and the moderator examines the solution. Once all teams find the answer, move on to the next problem. Spend about 15 minutes on each problem.

Shuffle team members and closing: 15 minutes

Getting to know many people is another objective of this event. After the exercises, shuffle the team members. Once each new team is formed, members talk for three minutes each, giving their names, occupations and their thoughts on the event.

Exercise samples (pp. 192-217)

Problem	There is no D battery. Make a substitute using an AA battery.
Materials	Flashlight that works on a D battery, AA battery, cloth, aluminum foil
Answer	p. 207
Problem	There is no toilet. Make an emergency toilet using materials available here.
Materials	Bucket, plastic bags, newspaper
Answer	p. 201
Problem	You have come to an evacuation center. Let's make a bed and pillow.
Materials	Cardboard, newspaper, polystyrene foam, large plastic sheets, ball
Answer	pp. 214-215
Problem	We need dishes and spoons to distribute meals. Let's make them.
Materials	Plastic bottles, milk cartons, newspaper
Answer	p. 208
Problem	Let's learn how to tie ropes tightly. Tie a clove hitch and square knot.
Materials	Ropes
Answer	p. 216
Problem	There is no light due to a power failure. How can we make a light?
Materials	Flashlights, white plastic bags, plastic bottles, water
Answer	p. 206
Problem	It's getting chilly. Think about how we can warm ourselves with newspapers.
Materials	Newspaper, plastic bags, plastic wrap
Answer	p. 192

Having these versatile materials at the event could be helpful.

- Newspaper
- Cardboard
- Plastic bags
- Plastic bottles
- Paper cartons
- Paper
- Cloth
- Plastic wrap
- Aluminum foil
- Sterile gauze
- Rubber bands
- Paper clips
- Garbage bags
- Ropes
- Clothes you no longer wear

If you prepare ample amounts of versatile materials, such as those listed above, event participants might be able to come up with their own versions of helpful items. Cooperate with the members of your team and look into various solutions.

Knowledge
P. 238

Support Systems
P. 253

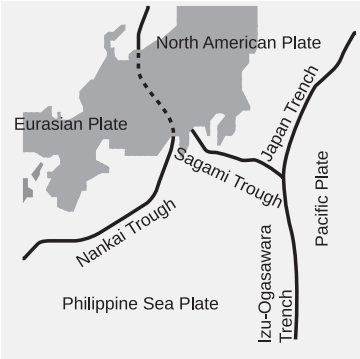
Information
P. 262

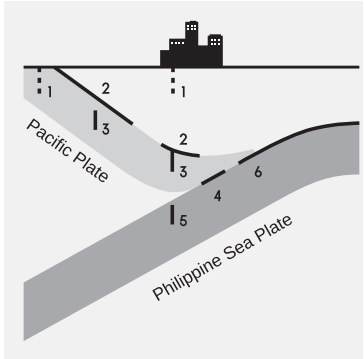
5

Disaster Facts and Information You Should Know

Learning as much as you can about disasters will help you make quick and accurate decisions when one strikes. This knowledge will not only be helpful to you, but could lead to helping many others too. In this chapter, we have compiled a range of information on different types of disasters and disaster preparedness. Enhance your level of disaster preparedness by learning more!

Knowledge of Earthquakes





Mechanism of Earthquake

Earthquakes occur when slabs of rock underground slip away or toward each other. Around Japan, oceanic plates move at a speed of several centimeters a year toward the land plates, and when the land plates can no longer resist this stress and slip, an earthquake occurs at the plate boundary (interplate earthquake). The complex forces of multiple plates around Japan make it one of the world's most seismically active areas.

An earthquake that occurs inside the tectonic plate is called an intraplate earthquake. Intraplate earthquakes include earthquakes occurring within the subducting plate and earthquakes occurring in the shallow area of a land plate (shallow focus inland earthquake: active fault earthquake). As a shallow focus inland earthquake would occur near residential areas, it could cause large damage. A large earthquake directly hitting Tokyo, the Tokai earthquake, and other major earthquakes are forecasted to occur.

Active Fault

These were active in the most recent period of geological time (from the Quaternary Period: within the last 1.7 to 2 million years), and are faults that can become the source of future earthquakes.

Seismic Intensity and Magnitude

Seismic intensity describes the degree of shaking. Seismic intensities announced by the Japan Meteorological Agency are ranked into 10 levels from "0" to "7" (see the table below). Magnitude (M) is the energy of the earthquake. Even an earthquake with a small magnitude could have a large seismic intensity in areas near the source.

Seismic intensity	Situation
0	Imperceptible to people
1	Felt slightly by some people keeping quiet in buildings.
2	Felt by most people keeping quiet in buildings.
3	Felt by almost all people inside buildings.
4	Almost all people are startled. Hanging objects such as lights sway significantly. Unstable objects/figurines may fall.
5 Lower	Most people feel the need to hold onto something stable. Things such as dishes or books on shelves may fall. Unsecured furniture may move and unstable objects may topple over.
5 Upper	Walking is difficult without holding onto something stable. More things such as dishes or books on shelves fall. Unreinforced concrete block walls, etc., may collapse.
6 Lower	It is difficult to remain standing. Most unsecured furniture move and some may topple over. Wall tiles and windows may sustain damage and fall. For wooden houses with low earthquake resistance, roof tiles may fall, and the houses may tilt or collapse.
6 Upper	People need to crawl to move, and may be thrown through the air. Almost all unsecured furniture move and more start toppling over. Large cracks may form in the ground, and large-scale landslips and massif collapse may occur.
7	There are even more cases of wooden houses with low earthquake resistance tilting or collapsing. Even buildings with high earthquake resistance could tilt. More reinforced concrete buildings with low seismic resistance collapse.

Liquefaction

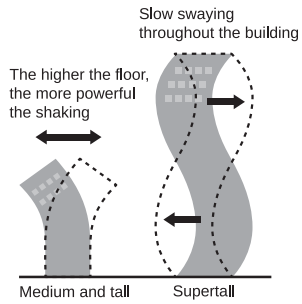
Liquefaction is a phenomenon in which soil behaves like a liquid due to the occurrence of an earthquake. It could cause damage such as the tilting or sinking of houses and other buildings. It could also result in the uplifting of manholes and structures with law specific gravity such as sewage pipes.

Long-period Ground Motions

When an earthquake occurs, various periods of shaking (ground motion) occur. Here, "period" means the time it takes for the ground to move back and forth to complete one cycle. When a large-scale earthquake occurs, a long-period, slow and large shaking (ground motion) occurs. This kind of ground motion is called "long-period ground motion."

Swaying characteristics of tall buildings

Buildings have what is called a natural period—the rate at which they sway back and forth. When this natural period and the seismic wave period match up, the subsequent resonance will make the building shake significantly. In general, tall buildings have a longer natural period than low buildings. Due to this fact, tall buildings tend to resonate with the seismic waves of long-period ground motion, and once this resonance occurs, a building will sway largely for a long period. The higher floors of a tall building also tend to sway more than the lower floors.



Long-period ground motion observation information

The Japan Meteorological Agency is announcing long-period ground motion observation information on its website on a trial basis (as of April 2015).

Long-period ground motion levels

Long-period ground motion is ranked according to situations inside tall buildings, such as human perception and reaction, and the movement or toppling over of furniture. For instance in long-term ground motion grade 1, window blinds swing significantly and almost everyone can feel the shaking. At grade 4, most of the furniture that is not secured to the floor or wall moves and people find it difficult to remain standing.

Long-period ground motion level	Human perception and reaction	Situation
Grade 1	Almost everyone can feel the shaking. Some are startled.	Blinds and other hanging objects swing significantly.
Grade 2	People feel large shaking and want to hold onto something stable. They have problems moving, such as having difficulty walking without holding onto something.	Furniture and fixtures on casters move slightly. Dishes and books on shelves may fall.
Grade 3	It becomes difficult to remain standing.	Furniture and fixtures on casters move significantly. Unsecured furniture may move, and unstable items may topple over.
Grade 4	People cannot remain standing, have to crawl to move, and are tossed about by the shaking.	Furniture and fixtures on casters move significantly, and some may topple over. Most of the unsecured furniture will move and some will topple over.

Earthquake Early Warnings

Earthquake Early Warning is information on the estimated seismic intensity and arrival time of strong tremors, which is provided as soon as possible after the occurrence of an earthquake. When an Earthquake Early Warning is issued by the Japan Meteorological Agency, people are informed through television, radio, the Internet, and others.

Types of Earthquake Early Warnings

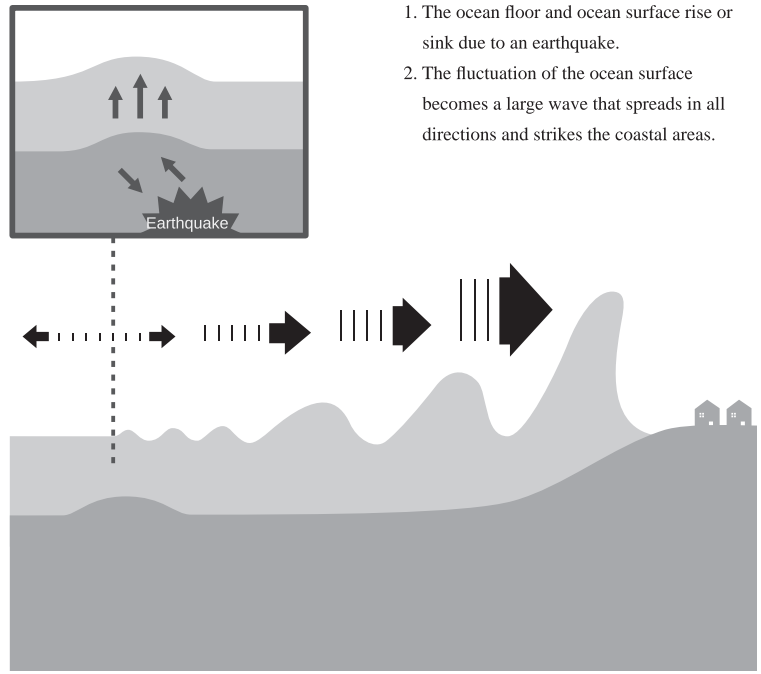
There are two main types of Earthquake Early Warnings: forecasts and alerts. An Earthquake Early Warning forecast is issued when an earthquake with a maximum seismic intensity of at least 3 or a magnitude of at least 3.5 is expected to occur. An Earthquake Early Warning alert is issued for areas that will have tremors with a seismic intensity of at least 4 when an earthquake with a maximum seismic intensity of at least 5 Lower is expected to occur. When the maximum seismic intensity is expected to be at least 6 Lower, the Early Warning alert is positioned as an emergency alert.

Type	Name of Earthquake Warning Issued	Contents
Ground motion forecast	Earthquake Early Warning forecast	Maximum seismic intensity 3 or higher or magnitude 3.5 or higher
Ground motion alert	Earthquake Early Warning or Earthquake Early Warning alert	Maximum seismic intensity 5 Lower or higher
Ground motion emergency alert		Maximum seismic intensity 6 Lower or higher

Mechanism of Earthquake Early Warning System

When an earthquake occurs, the P waves that cause small shaking are followed by the S waves that cause large shaking. After detecting the first P wave by the seismometers, the Earthquake Early Warning is issued to warn people of the approaching S wave. However, in areas close to the focus, the Earthquake Early Warning may not be issued in time.

Tsunami Knowledge

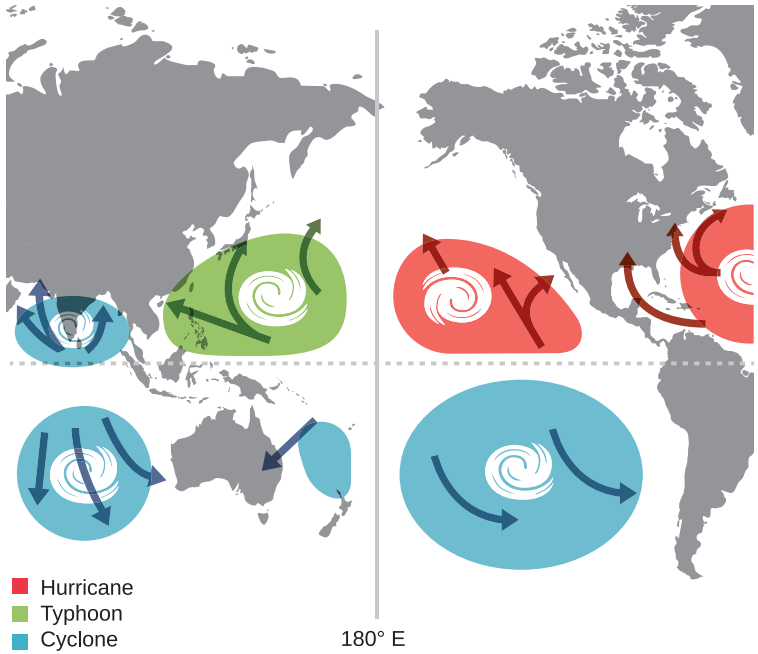


1. The ocean floor and ocean surface rise or sink due to an earthquake.
2. The fluctuation of the ocean surface becomes a large wave that spreads in all directions and strikes the coastal areas.

Mechanism of a Tsunami

When an earthquake occurs at a shallow place below the surface of the ocean floor, fault movements make the ocean floor rise or sink. This results in a fluctuation of the ocean surface, which becomes a large wave that spreads in all direction. This is a tsunami. The deeper the water depth, the faster the tsunami travels, and the more shallow the water, the higher the tsunami becomes. In any case, the tsunami flows powerfully inland at a speed that most people will not be able to outrun. It also recedes very strongly, taking everything that floats out to sea. Tsunamis will hit repetitively as well.

Typhoon and Heavy Rain Knowledge



* Large tropical cyclones are called different names depending on where they occur.

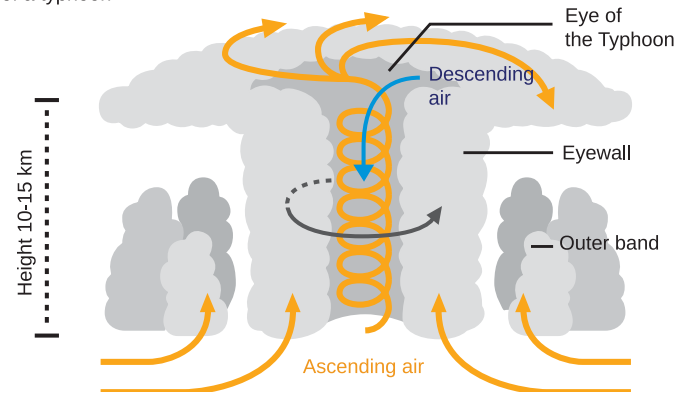
Typhoons and Tropical Cyclones

Low-pressure systems forming over tropical waters are called tropical cyclones. Of these tropical cyclones, those in the northwestern Pacific or the South China Sea that have a maximum wind speed (10-minute average) of at least 17m/s are called typhoons. Upper level winds push the typhoon, which is disposed to moving north due to the effect of earth's rotation. Because of this, in low latitudes where east winds normally blow, the typhoon moves north while being steered to the west. When the typhoon reaches the middle and high latitudes where strong west winds (prevailing westerlies) are blowing in the upper level, typhoons move northeast at a high speed.

Typhoon Structure

Eye of the typhoon	Air descends, with no clouds, and weakening wind and rain. The eye has a diameter ranging from around 20 to 200 km. In general, the smaller the eye of the typhoon, the more powerful the typhoon.
Eyewall	The eye of the typhoon is surrounded by the eyewall, a ring of dense cumulonimbus clouds. This is where the strongest wind and rain of the storm occurs.
Spiral band	A somewhat thick spiral band (inner rainband) around the eyewall, which produce strong and continuous rainfall.
Outer band	Outer rainbands around the spiral band, forming about 200 to 600 km from the center of the typhoon, which intermittently produce strong rain showers, thunderstorms, and at times, tornadoes.
Above the clouds	Air is released clockwise.

Cross section diagram of a typhoon



Advisories and Warnings for Typhoons and Heavy Rain

Heavy rain advisory	Issued when there is the risk that heavy rain will cause flooding or sediment disasters. The advisory continues to be issued even after the rain has stopped if there is still the risk of sediment disasters, etc.
Heavy rain warning	Issued when there is the risk that heavy rain will cause serious flooding or sediment disasters. The warning continues to be issued even after the rain has stopped if there is still the risk of serious sediment disasters, etc
Gale advisory	Issued when there is the risk of disasters occurring from strong winds.
Storm warning	Issued when there is the risk of serious disasters occurring from violent winds.
Flood dvisory	Issued when there is the risk of rising levels or flooding of rivers, damage or collapse of levees, and other disasters occurring due to heavy rain, long rain, snowmelt, etc.
Flood warning	Issued when there is the risk of serious disasters occurring due to heavy rain, long rain, snowmelt, etc.
High wave advisory	Issued when there is the risk of disasters occurring due to high waves. High waves are completely different from tsunamis occurring from earthquakes.
High wave warning	Issued when there is the risk of serious disasters occurring due to high waves. High waves are completely different from tsunamis occurring from earthquakes.
Storm surge advisory	Issued when there is the risk of disasters occurring through the abnormal rise of the ocean surface due to typhoons, low pressure systems, etc.
Storm surge warning	Issued when there is the risk of serious disasters occurring through the abnormal rise of the ocean surface due to typhoons, low pressure systems, etc.
Thunderstorm warning	Issued when there is the risk of disasters occurring through lightening. Alerts may also be added for hail or sudden gusts of wind that often form under thunderclouds. Thunderstorm advisories will also call for caution against sudden heavy rain.

Typhoon and heavy rain emergency warnings

Heavy rain emergency warning	Issued when heavy rainfall of an intensity observed only once every few decades is forecasted due to typhoons or torrential rain, or when a powerful typhoon with a level of intensity observed only once every few decades or an extratropical cyclone of comparable intensity is forecasted to bring heavy rain. When a heavy rain emergency warning is issued, it is expected that there is an extremely large risk of serious damage such as inundation and sediment disaster occurring. The emergency warning continues to be issued even after the rain has stopped when there is still a significantly large risk of serious sediment disaster, etc. occurring.
Storm emergency warning	Issued when it is forecasted that a powerful typhoon with a level of intensity observed only once every few decades or an extratropical cyclone of comparable intensity will produce violent winds.
High wave emergency advisory	Issued when it is forecasted that a powerful typhoon with a level of intensity observed only once every few decades or an extratropical cyclone of comparable intensity will produce high waves. High waves are completely different from tsunamis occurring from earthquakes.
Storm surge emergency warning	Issued when it is forecasted that a powerful typhoon with a level of intensity observed only once every few decades or an extratropical cyclone of comparable intensity will result in storm surge.

Other typhoon and heavy rain bulletins and forecasts

Record-time heavy rain information	During a heavy rain warning, this bulletin is announced on the observation or analysis of severe record-time heavy rain of a scale that only occurs once every several years to let everyone know that the current rainfall is of a severity rarely seen in that area.
Designated river flood forecast	The Japan Meteorological Agency and the national government or prefectural governments jointly make flood forecasts that indicate the water level and flow rate of designated rivers. There are four types of designated river flood forecasts: Flood advisory bulletin, flood warning bulletin, flood risk bulletin, and flood bulletin.
Sediment-disaster alert bulletin	During a heavy rain warning, if a very high risk of sediment disaster arises, the municipalities at risk are identified, and this bulletin is issued jointly by the relevant prefecture and the Japan Meteorological Agency. Locations at risk of sediment disasters, warning and evacuation districts, and emergency warning districts can be confirmed on the Tokyo Metropolitan Government's Sediment Disaster Risk Map

Various Weather Information

Heavy snow advisory, warning, emergency warning

Heavy snow advisory	Issued when there is the risk of disasters occurring due to heavy snow.
Heavy snow warning	Issued when there is the risk of serious disasters occurring due to heavy snow.
Heavy snow emergency warning	Issued when heavy snow with a level of intensity observed only once every few decades is forecasted.

Snowstorm advisory, warning, emergency warning

Gale and snow advisory	Issued when there is the risk of damage from gales accompanying snow. In addition to disasters from strong winds, alerts are also given for disasters resulting from visibility obstruction (reduction of visibility), etc., accompanying snow.
Snowstorm warning	Issued when there is the risk of serious disasters occurring from gales accompanying snow. In addition to serious disasters occurring from violent winds, warnings are also given about the risk of serious disasters resulting from visibility obstruction (reduction of visibility), etc., accompanying snow.
Snowstorm emergency warning	Issued when it is forecasted that a powerful typhoon with a level of intensity observed only once every few decades or a extratropical cyclone of comparable intensity will produce violent winds accompanying snow. In addition to serious disasters occurring from violent winds, warnings are also given about the extremely high risk of serious disasters resulting from visibility obstruction (reduction of visibility), etc., accompanying snow.

Avalanche, etc. advisories

Avalanche advisory	Issued when there is the risk of disasters occurring from avalanches.
Snowmelt advisory	Issued when there is the risk of serious disasters occurring due to heavy snow.
Snow accretion advisory	Issued when heavy snow with a level of intensity observed only once every few decades is forecasted.

Cold weather advisories

Ice accretion advisory	Issued when there is the risk of damage to communications lines, power lines, ship hulls, etc., due to significant ice accretion.
Frost advisory	Issued when there is the risk of damage to crops due to early and late frost.
Low temperature advisory	Issued when there is the risk of significant damage to crops, etc., due to low temperatures, or the risk of significant damage brought about by the freezing or rupture of water supply pipes in the winter.

Other Advisories

Dense fog advisory	Issued when there is the risk of disasters occurring due to thick fog. Disasters include significant impairments that hinder the operation of transit systems.
Dry air advisory	Issued where there is the risk of disasters occurring due to dry air, and when weather conditions that have a high risk of fire outbreak are forecasted.

Large-Scale Disasters in the Past

Earthquakes since the Great Kanto Earthquake that wrought enormous damage

Year	Scale	Disaster name	Damage
1923	M7.9	Great Kanto EarthquakeKita	Deaths/missing: Over 105,000
1927	M7.3	TKita Tango Earthquake	Deaths: 2,925
1943	M7.2	Tottori Earthquake	Deaths: 1,083
1944	M7.9	Tonankai Earthquake	Deaths/missing: 1,223
1945	M6.8	Mikawa Earthquake	Deaths: 2,306
1946	M8.0	Nankai Earthquake	Deaths: 1,330
1948	M7.1	Fukui Earthquake	Deaths: 3,769
1995	M7.3	Great Hanshin-Awaji Earthquake	Deaths: 6,434
2011	M9.0	Great East Japan Earthquake	Deaths: 19,225 (as of March 2015)

1923 Great Kanto Earthquake (from the archives of the Tokyo Metropolitan Government Memorial Hall of Reconstruction Hall of Reconstruction)

2011 Great East Japan Earthquake

Major volcanic eruptions that had an impact on Tokyo

Year	Name	Damage, etc.
1707	Hoei-Eruption of Mount Fuji	Large quantities of volcanic ash
1902	Izu-Torishima Eruption	Deaths: 125
1940	Miyakejima Eruption	Deaths: 11
1983	Miyakejima Eruption	Damage from lava flow, etc.
1986	Izu-Oshima Eruption	All residents evacuated from the island
2000	Miyakejima Eruption	All residents evacuated from the island

* Volcanic eruptions that left behind damage in Tokyo

1986 Izu-Oshima eruption
©T. Miyazaki

2000 Miyakejima Eruption

Recent typhoons and heavy rain that had an impact on Tokyo

September 4-5, 2005	Heavy rain	Inundation above floor level: 2,349 Inundation below floor level: 2,129
September 5-7, 2007	Typhoon No. 9	Injured: 2 Houses totally destroyed: 2 Houses destroyed to some degree: 189
August 9, 2009	Heavy rain	Injured: 5 Inundation above floor level: 7 Inundation below floor level: 5
July 5, 2010	Heavy rain	Missing: 1 Inundation above floor level: 336 Inundation below floor level: 372 Landslip: 1
December 2-3, 2010	Heavy rain, gales	Deaths: 1 Injured: 5 Houses destroyed to some degree: 1
September 21, 2011	Typhoon No. 15	Injured: 6 Houses destroyed to some degree:1 Inundation below floor level: 3
September 15-16, 2013	Typhoon No. 18	Injured: 3 Houses destroyed to some degree: 4 Inundation below floor level: 1
October 16, 2013	Typhoon No. 26	Deaths: 36 Missing: 4 Houses totally destroyed: 46; Houses partially destroyed: 40

* Typhoons and heavy rain that wrought human damage in Tokyo and damage to over 2,000 houses.

2013 Typhoon No. 26 sediment disaster in Izu Oshima island

Support for Rebuilding of Life after a Disaster

Support for rebuilding life

There are various systems in place to help you rebuild your life when you have incurred damage from a natural disaster such as an earthquake. Some of the systems may require that you present a damage certificate (risai shomeisho), which certifies the degree of damage to your home or office, etc., caused by the earthquake, etc. File for this certificate at your municipality. Following this, you can apply for various systems that can help you rebuild your life. In addition, if you were insured for earthquakes, etc., you can receive insurance money.

Death of a parent or child, etc.	➡	Disaster sympathy money
Disability from injury or disease	➡	Disaster disability compensation money
Need money for the time being to live and to rebuild life	➡ ➡	Support fund for disaster victims to rebuild their lives Disaster relief fund
Wish to get a tax exemption or reduction	➡ ➡	Income tax casualty loss deduction Income tax disaster exemption
Wish to rebuild my house	➡	Disaster reconstruction housing loan
Wish to resume work	➡ ➡ ➡	Public vocational training Job seeker support training Vocational training allowance
Wish to resume school	➡ ➡	Emergency scholarship by the Japan Student Services Organization National government education loan's special measure for disasters
Wish to rebuild my business	➡ ➡	Disaster reconstruction loan Loan systems for SMEs and agricultural, forestry, and fisheries businesses

Damage certificate

A damage certificate is issued by the head of the municipality to certify the degree of damage to a person's residence due to disasters such as earthquakes, wind and floods. It will be necessary to use this certificate to receive benefits, loans, disaster relief money, extension and/or reduction/exemption of payment of taxes, national health insurance, etc., reduction/exemption of fees for public services, to file for insurance benefits, and apply for residence in emergency temporary housing.

Criteria for the Damage Certificate

The damage certificate is widely used as material to determine eligibility for various disaster victim support measures. It is classified according to the degree of damage to the dwelling (owned housing, rented housing) as shown in the table. For details, inquire at your local municipality office.

Degree of damage	Percentage destroyed
Total destruction	50% or more
Significant partial destruction	40% to under 50%
Partial destruction	20% to under 40%

Disaster Sympathy Money

The families of those who lost their lives or are missing due to the disaster can receive sympathy money. For details, inquire at your local municipality.

Amount	☐ Death of the household's main provider: Amount determined by municipality ordinance (5 million yen) ☐ Death of another family member: Amount determined by municipality ordinance (2.5 million yen)
Recipient	☐ Family of the deceased (1. Spouse 2. Child 3. Parent 4. Grandchild 5. Grandparent)
	☐ When there are none of the above family members, a sibling of the deceased (Lived with the deceased at the time of death, or lived under the same household budget)

Disaster disability compensation money

Those who became severely disabled due to the disaster can receive disaster disability compensation money. For details, inquire at your local municipality.

Amount of compensation	☐ When the household's main provider became severely disabled: Amount determined by municipality ordinance (2.5 million yen) ☐ When other members of the family became severely disabled Amount determined by municipality ordinance (1.25 million yen)
Recipient	☐ Those who are blind in both eyes. ☐ Those who have lost the functions of mastication and speech. ☐ Those who are left with serious impairment in the functions of the nervous system or in the psyche and require continuous nursing care. ☐ Those who are left with serious impairment in the functions of the thorax and abdominal organs and require continuous nursing care. ☐ Those who have lost both upper limbs above the elbow joint. ☐ Those who have completely lost the functions of both upper limbs. ☐ Those who have lost both lower limbs above the knee joint. ☐ Those who have completely lost the functions of both lower limbs. ☐ For those with multiple physical or mental impairments,

Support fund for disaster victims to rebuild their lives

A support fund will be provided to households that suffered significant damage to their livelihoods through the disaster, such as total destruction of their residences. For details, inquire at your municipality

Payment	☐ Total destruction, etc.: 1 million yen ☐ Significant partial destruction: 500,000 yen
Support provided according to how the dwelling will be reconstructed (additional fund)	☐ Construction or purchase: 2 million yen ☐ Repair: 1 million yen ☐ Rental (excluding public housing): 500,000 yen

*If a dwelling is built or purchased (or repaired) after renting a dwelling, the combined total amount of support will be 2 million (or 1 million) yen.
*For single households, the payment will be 3/4 of the amount indicated above.

Disaster Relief Fund

Those who have suffered injury or damage to their residence or property are eligible to borrow funds for disaster relief. However, income limits apply. For details, inquire at your local municipality.

Head of household has injuries lasting at least 1 month.	☐ This injury alone 1.5 million yen
	☐ Damage to at least 1/3 of household possessions 2.5 million yen
	☐ Partial destruction of dwelling 2.7 million yen
	☐ Total destruction of dwelling 3.5 million yen
Head of household does not have injuries lasting at least 1 month	☐ Damage to at least 1/3 of household possessions 1.5 million yen
	☐ Partial destruction of dwelling 1.7 million yen
	☐ Total destruction of dwelling (excluding dwellings that were completely lost or swept away) 2.5 million yen
	☐ Dwelling was completely lost or swept away 3.5 million yen

Loan interest rate	☐ Annual rate of 3% (no interest during the period of deferment)
Period of deferment	☐ Within 3 years (5 years in special cases)
Period of repayment	☐ Within 10 years (includes the period of deferment)

Income tax casualty loss deduction

When a disaster results in damages to your property such as housing, household possessions, and clothing, which are needed for daily life, you can deduct a certain amount from income when filing your tax returns. The amount deductible can be chosen from either (1) casualty loss deduction based on the Income Tax Act, or (2) income tax exemption/reduction measures based on the Disaster Exemption Act, whichever is better. For details, inquire at your local tax office.

Income tax disaster exemption

When your income in the year of the disaster does not exceed 10 million yen, and damages to your home or household possessions were 50% or more of the current value, you can receive income tax exemption/reduction. However, this only applies to those who are not filing for income tax casualty loss deductions. For details, inquire at your local tax office.

Other reduction/exemption from taxes, etc.

You may be eligible for tax or insurance reduction/exemption or deductions according to the scale of the disaster and the degree of damage. Inquire at the relevant divisions noted below.

Tax Office	☐ Inheritance tax, gift tax,
Nearby municipal office	☐ Inhabitant tax, fixed asset tax (for those residing in the 23 wards, inquire at the metropolitan tax office), etc. ☐ National health insurance / long-term care insurance
Metropolitan Tax Office	☐ Business tax on individuals
Japan Pension Service	☐ National pension
Relevant utility service or office	☐ Electricity, gas, water supply and sewerage, telephone bills, NHK receiving fee, etc.

Disaster reconstruction housing loan

Those who own or reside in dwellings that were damaged by the disaster can receive a disaster reconstruction housing loan to rebuild their homes. Residences eligible for this loan are, in principle, those with a floor space from 13sqm to 175sqm. These residences must also meet the criteria set by the Japan Housing Finance Agency. For details, inquire at the Japan Housing Finance Agency, which is providing the loan..

Implementing organization	Japan Housing Finance Agency
Eligible borrowers	People who have received a Damage Certificate for partial destruction or more, and own, rent, or live in a dwelling with floor space from 13sqm to 175 sqm.
Use of funds	Construction, purchase, or repair of own home
Loan limit	☐ Construction funds: Basic loan 16.5 million yen / special addition 5.1 million yen ☐ Land acquisition funds: 9.7 million yen ☐ Ground leveling funds: 4.4 million yen
Interest rate	Basic loan: 0.91% / special addition: 1.81%
Loan period	Within 35 years

(as of February 2014)

Emergency temporary housing

Emergency temporary housing is for people who have lost a place to live because their home was total destroyed (collapsing, burning, swept away) in a disaster, and who do not have the financial means to secure housing on their own. If enough emergency temporary housing cannot be built in time, it would also be possible to live in rented private housing deemed to be temporary housing. According to the situation, the Tokyo Metropolitan Government plans to promptly and appropriately provide disaster survivors with emergency temporary housing by using public housing such as metropolitan housing, renting private housing, and constructing temporary housing.

Earthquake insurance

In Japan, you never know when you might suffer damages to your home and household possessions due to an earthquake, tsunami, or other catastrophe. These damages can be covered by earthquake insurance or mutual aid (this is different from fire insurance). Earthquake insurance is insurance dedicated to earthquake disasters, which provides compensation for damages to property by fire, destruction, immersion or being swept away, caused by an earthquake or volcanic eruption or a subsequent tsunami. Damages from liquefaction caused by earthquakes are also covered.

Receiving earthquake insurance

Insurance will be paid according to the degree of damage to the building or household possessions. Even if you do not have the insurance papers with you due to fire or tsunami, as long as you can prove who you are, you can take the procedures to receive insurance.

Support for Daily Life

Resuming work

Those who have lost work can look for a job at Hello Work (national government's employment service center) or receive support such as vocational training.

Public vocational training	Eligibility	☐ Those receiving unemployment benefits
	Contents	☐ Can receive training for free to acquire skills and knowledge necessary for employment (trainee must bear the text fees, etc.)
Job seeker support training	Eligibility	☐ Those who cannot receive unemployment benefits because they were self-employed, were not participating in the employment insurance program, etc.
	Contents	☐ Can receive training for free to acquire skills and knowledge necessary for employment (trainee must bear the text fees, etc.)
Vocational training allowance	Eligibility	☐ Those who cannot receive unemployment benefits and who are instructed by Hello Work to receive training, and fulfill certain conditions.

Returning to school

Those with drastic changes in household finances or whose school has been damaged due to the disaster can receive emergency scholarships to help cover matters such as school tuition and fees for transferring schools.

Emergency scholarship by the Japan Student Services Organization	Eligibility	☐ Households residing in areas falling under the Disaster Relief Act, which have had a drastic change in the financial situation within the past 12 months
	Inquiries	☐ Current school
Education loan as the Government's disaster special measures	Eligibility	☐ Special measure for disasters may apply to those who have a damage certificate, etc. There are also special measures such as partial easing of income restrictions and extension of repayment period.
	Inquiries	☐ Japan Finance Corporation

Disaster Reconstruction Loan

This is a disaster reconstruction loan to support small and medium-sized companies that were affected by the disaster in rebuilding their business. The repayment period is longer than regular loans, and it also has benefits such as a long grace period. For details, inquire at the Japan Finance Corporation.

Eligibility	☐ Small and medium-sized business operators who suffered damages due to a designated disaster
Use of funds	☐ Equipment funds or long-term operating funds to rebuild the business after the disaster
Maximum loan	☐ Direct loan: 150 million yen ☐ Loan by agent: additional 75 million yen within the limits of the direct loan
Standard interest rate	☐ 1.4 - 2.0% (as of April 2015)
Repayment period	☐ Equipment funds: within 10 years (of which there is a period of deferment of up to 2 years) ☐ Operating funds: within 10 years (of which there is a period of deferment of up to 2 years)
Security/guarantor	☐ Whether there is the need to provide security and the type of security, etc. is decided after discussion

Loan systems for SMEs and agricultural, forestry, and fisheries businesses

The Shoko Chukin Bank provides loans for equipment funds or operating funds to small and medium-size companies that have suffered damages, and Credit Guarantee Corporations serve as guarantors for loans from financial institutions. The Japan Finance Corporation also loans operating funds and management funds to agricultural, forestry, and fisheries operators who suffered damages. Business funds are also loaned at low interest rates to agricultural cooperatives and other cooperatives.

Main loan systems	☐ Shoko Chukin Bank's disaster reconstruction funds for SMEs ☐ Credit guarantee corporations around Japan provide credit guarantee to SMEs ☐ Support by the Japan Finance Corporation for agricultural, forestry, and fisheries businesses ☐ Natural calamity loan system for agricultural, forestry, and fisheries businesses provided by the local municipality

Emergency First Aid

Burn degree and treatment

Determining burn depth

Degree	Damaged tissue	External appearance	Symptom
First degree	Epidermis	Skin is red	Painful, tender and sore
Second degree	Dermis	Skin is red and appears swollen; blisters may form	When the upper layer of the dermis is involved (superficial second degree) there is strong pain and a burning sensation. When the lower layer of the dermis is involved (deep second degree), pain and sensation of the skin is diminished.
Third degree	Subcutaneous fat tissue	Skin is dry and leathery, with no elasticity, is white and charred in some areas	No pain or sensation of the skin

Treatment of severe burns

Cool the burned area with water over the clothes, and cover the burn with clean thick cloth such as towels, to protect from pressure and friction. See a doctor as soon as possible.

Treatment of light burns ➡ P. 182

Exposure to chemical agents

When the skin has come in contact with a chemical agent, wash off with water. Do not scrub with a brush, etc., as this will irritate the wound. Immediately dispose of clothing or shoes that have been covered with the chemical. See a doctor as soon as possible.

Clothing catching fire

If your clothing catches fire, do not run as this will worsen the fire. Stay where you are and try to extinguish the fire immediately by dropping to the floor or ground and rolling, removing your clothing, beating your body, pouring water over yourself, etc. If someone else's clothing has caught fire, extinguish the fire by pouring water or covering the person with your clothes.

Degree of bleeding and treatment

Arterial bleeding

When the blood is bright red and spurts out in rhythm with the pumping of the heart, it is arterial bleeding. Call for an ambulance or medical help immediately since profuse bleeding could result in death. The most effective first-aid treatment would be to cover the wound with a thick piece of gauze, etc., and apply direct pressure to the wound to stop the bleeding. When this is not sufficiently effective, try to stop the bleeding by an indirect method in which the thumb, etc., is used to apply pressure on the artery between the wound and heart.

Details ➡ P. 179

Venous bleeding

When blood is dark red and flows out continuously, bleeding is from a vein. A large amount of blood loss within a short time usually does not occur. Firmly press a bandage, etc., on the wound to stop the bleeding.

Capillary bleeding

When red blood oozes out from a cut on the finger, a knee abrasion after a fall, etc., this is bleeding from the capillary veins. Treat by applying a bandage, etc.

Triage at the emergency medical station

The arrival of patients at emergency medical stations will be a mixture of both lightly wounded or ill patients and critical patients. In order to achieve the best life saving results in a short period of time, the patients will be evaluated and categorized according to the degree of their illness or wounds, and prioritized for treatment or transfer to a medical facility outside the disaster zone. This is called “triage.”

The evaluation criteria for triage are standardized, and medical practitioners will conduct treatment in the order of the triage tag. This is a necessary measure to fully use limited resources such as medical staff and drugs, in order to save as many lives as possible.

Categorization	Priority	Color tag	Symptoms
Highest priority treatment group (serious)	I	Red	Immediate treatment needed to save life. Are choking, have extensive bleeding, or are in shock.
Elective treatment group (moderate)	II	Yellow	Slight delay in treatment will not be life threatening. Basically have stable breathing and pulse.
Wait group (minor)	III	Green	Minor injuries or illness other than the above, which hardly need treatment by a specialist.
Not breathing group (deceased)	IV	Black	No breathing even when the airway has been secured. Already deceased. Or clearly instant death with no possibility of resuscitation even if CPR is conducted.

Types of Infectious Disease

Infectious diseases range from the annual seasonal influenza to diseases that could result in death. Under the Infectious Diseases Act, infectious diseases are categorized into groups from Class 1 to Class 5, and doctors are required to notify the nearest public health center when a patient is diagnosed with such a disease.

Class I infectious disease	Ebola hemorrhagic fever, Crimean-Congo hemorrhagic fever, smallpox, South American hemorrhagic fever, plague, Marburg disease, and Lassa fever
Class II infectious disease	Poliomyelitis, tuberculosis, diphtheria, severe acute respiratory syndrome (limited to those resulting from the SARS coronavirus as a beta coronavirus), Middle East respiratory syndrome (limited to those resulting from the MERS coronavirus as a beta coronavirus), and avian influenza (H5N1 and H7N9)
Class III infectious disease	Cholera, bacillary dysentery, enterohemorrhagic E. coli infection, typhoid, and paratyphoid
Class IV infectious disease	E hepatitis, West Nile Virus, A hepatitis, echinococcosis, yellow fever, psittacosis, Omsk hemorrhagic fever, relapsing fever, Kyasanuru forest disease, Q fever, rabies, coccidioidomycosis, monkey pox, severe fever with thrombocytopenia syndrome (limited to those resulting from the phlebovirus genus SFTS virus), hemorrhagic fever with renal syndrome, western equine encephalitis, tick-borne encephalitis, and others
Class V infectious disease	Amoebic dysentery, viral hepatitis (except for hepatitis E and hepatitis A), carbapenem-resistant Enterobacteriaceae bacterial infection, acute encephalitis (except for West Nile encephalitis, western equine encephalitis, tick-borne encephalitis, eastern equine encephalitis, Japanese encephalitis, Venezuelan equine encephalitis, and Rift Valley fever), and others

Disaster Volunteers

Disaster Volunteers

Disasters volunteers are supporters who willingly take on restoration and recovery activities in the event of a disaster such as earthquakes, tsunamis, and wind and flooding from typhoons. You may have a strong image of volunteers conducting activities such as removing rubble and garbage at the stricken site, helping out at evacuation centers, and transporting and distributing relief. But their activities cover a broader range, including providing mental care to the disaster survivors, holding consultations and study meetings on rebuilding life, and providing information over the Internet.

Fundamentals of volunteer activities

Disaster survivors can request various kinds of support from volunteers working in the disaster-stricken area, such as removing rubble. However, volunteers are volunteers. It is up to the volunteers to decide whether or not to take up this request. It should be understood that they will not always respond to requests when, for instance, it could be dangerous or if there are not enough volunteers.

Disaster Volunteer Center

The Disaster Volunteer Center is a hub of volunteer activities to be installed in the event of a disaster. In general, organizations, such as the social welfare council of the affected area, are responsible for the operation of the Disaster Volunteer Center in cooperation with administrative officials and volunteers for smooth volunteer activities.

Main activities	☐ Collecting and comprehending the needs of the disaster site ☐ Preparing to receive and take in people wishing to volunteer ☐ Adjusting the number of volunteers according to needs, and arranging their activities ☐ Preparing and loaning out needed tools ☐ Feeding back and reporting on the results of activities and matters that were noted during activities ☐ Discussion on points to be improved

Tokyo Fire Department (TFD) disaster volunteers

The TFD disaster volunteers are specialized volunteers who are registered in advance with the TFD to provide support in the event of a large-scale accident or natural disaster such as an earthquake with a seismic intensity of 6-lower or more in a district under the jurisdiction of the TFD. These volunteers assemble at their own initiative at the fire station where they are registered or at a nearby fire station, and provide support for firefighting activities.

Activities of the TFD disaster volunteers

These volunteers support firefighting activities, provide logistics support, etc., for instance, supporting the firefighting activities of the department's firefighters, supporting rescue activities, providing first aid, and collecting information on the damage situation. In normal times, their main activities are participating in drills and events in preparation for a disaster. As community disaster response leaders, they might also coach residents on fire and disaster prevention.

How to register as a TFD disaster volunteer

In principle, a person at least 15 years old (excluding middle school students) who resides, works, or commutes to school in an area under the jurisdiction of the TFD, and who fulfills one of the following conditions can register.

☐ Has knowledge on first aid, such as having completed a lifesaving course.
☐ Has at least one-year experience as a volunteer fire corps member or a junior fire corps member
☐ Has qualifications or skills needed to support restoration activities after an earthquake, etc. (qualified fire defense equipment officer, hazardous materials engineer)

http:www.tfd.metro.tokyo.jp/hp-bousaika/sien/
*Former TFD employees can register regardless of where they live

Emergency Contact Numbers

Telephone Numbers

Police (to report a crime or accident)	110
Fire Department (to report a fire or request an ambulance)	119
Tokyo Metropolitan Government Hours: 8:30 a.m. – 6:15 p.m. Weekdays	03-5321-1111
Tokyo Metropolitan Health & Medical Information Center “Himawari” (assistance in a foreign language) Hours: 9:00 a.m. – 8:00 p.m.	03-5272-0303 03-5285-8181(Guidance in foreign languages)

Multilanguage Resources

Tokyo International Communication Committee (Living Information website)	http://www.tokyo-icc.jp/
Tokyo Fire Department	http://www.tfd.metro.tokyo.jp/
NHK WORLD (Radio programs in English and 16 other languages)	http://www3.nhk.or.jp/nhkworld/english/radio/program/

Inquiries Related to Disaster Preparedness

Type	Office in charge	Telephone
Disaster preparedness (general inquiries)	Tokyo Metropolitan Government, Bureau of General Affairs, Disaster Prevention Division, Management Section	03-5388-2453
River-related floods	Tokyo Metropolitan Government, Bureau of Construction, River Division, Disaster Prevention Section	03-5320-5431
Community earthquake risk	Tokyo Metropolitan Government, Bureau of Urban Development, Urban Development Projects Division, Disaster Management Section	03-5320-5003
Subsidies for seismic evaluation of buildings, seismic retrofitting and reinforcement	Tokyo Metropolitan Government, Bureau of Urban Development, Urban Buildings Division, Building Planning Section	03-5388-3362
Subsidies for seismic evaluation of condominium buildings, seismic retrofitting and reinforcement	Tokyo Metropolitan Government, Bureau of Urban Development, Housing Policy Promotion Division, Condominium Policy Section	03-5320-4944
Water supply	Bureau of Waterworks Customer Service Center for the 23 special wards	03-5326-1101
	Bureau of Waterworks Customer Service Center for the Tama area	0570-091-101
Police	Tokyo Metropolitan Police Department, Disaster Division	03-3581-4321
Fire department	Tokyo Fire Department	03-3212-2111
	Inagi City Fire Department	042-377-7119
	Oshima Town Fire Department	04992-2-0119
	Miyake Village Fire Department	04994-6-0119
	Hachijo Town Fire Department	04996-2-0119
First aid, volunteering, relief and aid	Japanese Red Cross Society Tokyo Branch Relief Section	03-5273-6744
Volunteering	Tokyo Volunteer and Citizens Activity Center	03-3235-1171

Residents of Musashino City, Akishima City, Hamura City, Hinohara Village, and the islands should contact the municipality where you live with questions in regard to water supply.
Please direct inquiries related to electric, gas, or telephone service to your service provider.
Please understand that assistance in a foreign language may not be available.

Directory of Sources for Disaster Management Information

Disaster Preparedness Websites

Tokyo Metropolitan Government Disaster Prevention Website	http://www.bousai.metro.tokyo.jp/
Tokyo Fire Department	http://www.tfd.metro.tokyo.jp/
Office of the Prime Minister of Japan and His Cabinet (disaster management information)	http://www.kantei.go.jp/jp/headline/bousai/
Office of the Prime Minister of Japan and His Cabinet (infectious diseases information)	http://www.kantei.go.jp/jp/headline/kansensho/
Cabinet Office (disaster management information)	http://www.bousai.go.jp/
Cabinet Secretariat Civil Protection Portal Site (armed attacks and terrorism information)	http://www.kokuminhogo.go.jp/
Ministry of Land, Infrastructure, Transport and Tourism (disaster and disaster prevention information)	http://www.mlit.go.jp/saigai/
Ministry of Land, Infrastructure, Transport and Tourism (river flooding information)	http://www.river.go.jp/
Fire and Disaster Management Agency	http://www.fdma.go.jp/
Japan Meteorological Agency	http://www.jma.go.jp/
Ministry of Health, Labour and Welfare (infectious diseases information)	http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou_iryou/kenkou/kekkaku-kansenshou/
Tokyo Metropolitan Police Department (traffic restrictions following a major earthquake)	http://www.keishicho.metro.tokyo.jp/kotu/shinsai_kisei/top.htm
Japanese Red Cross Society	http://www.jrc.or.jp/
Zenshakyo volunteer website (volunteer information)	http://www.saigaivc.com/
NHK Public Welfare Organization Volunteer Network	http://npwo.or.jp/nhkvnet/
Tokyo Electric Power Company (TEPCO) information on power outages, etc.	http://www.tepco.co.jp/life/custom/q_and_a/komatta/
Tokyo Gas (how to safely resetting your gas meter)	http://home.tokyo-gas.co.jp/userguide/anzen/meter/reset/
The General Insurance Association of Japan	http://www.sonpo.or.jp/

NHK ONLINE (information on disasters nationwide)	http://www5.nhk.or.jp/saigai/index_fd.html
NHK ONLINE (Weather and disaster nformation)	http://www3.nhk.or.jp/weather/
NHK WORLD (radio programs in English and 16 languages)	http://www3.nhk.or.jp/nhkworld/english/radio/program/

Disaster Preparedness Twitter Accounts

Tokyo Metropolitan Disaster Prevention	@tokyo_bousai (Twitter Alert available)
Tokyo Fire Department	@Tokyo_Fire_D (Twitter Alert available)
Office of the Prime Minister of Japan and His Cabinet(disaster and crisis management information)	@Kantei_Saigai
Cabinet Office Disaster Prevention	@CAO_BOUSAI
Ministry of Land, Infrastructure, Transport and Tourism	@MLIT_JAPAN
Fire and Disaster Management Agency	@FDMA_JAPAN
Japan Meteorological Agency	@JMA_kishou
Tokyo Metropolitan Police Department, Security Bureau, Disaster Division	@MPD_bousai
NHK News	@nhk_news
Japanese Red Cross Society	@JRCS_PR
Tokyo Electric Power Company (TEPCO)	@OfficialTEPCO

Earthquake Early Warning Alerts for Your Mobile Phone

NTTDoCoMo	https://www.nttdocomo.co.jp/service/safety/areamail/
au	http://www.au.kddi.com/mobile/anti-disaster/kinkyu-sokuho/
SoftBank	http://www.softbank.jp/mobile/service/urgent_news/about/eew/
Y!mobile	http://www.ymobile.jp/service/urgent_mail/

Please note that information may only be provided in Japanese on some of these sites and Twitter accounts.

Safety Confirmation Services

NTT East	http://www.ntt-east.co.jp/saigai/web171/
NTT DoCoMo	http://www.nttdocomo.co.jp/info/disaster/
au	http://www.au.kddi.com/mobile/anti-disaster/saigai-dengon/
SoftBank	http://www.softbank.jp/mobile/service/dengon/
Y!mobile	http://ymobile.jp/service/dengon/
J-anpi	http://anpi.jp/

Transportation Information

East Japan Railway Company (operations information)	http://traininfo.jreast.co.jp/train_info/
Tokyo Metro (operations information)	http://www.tokyometro.jp/unkou/
Toei Subway (operations information)	http://www.kotsu.metro.tokyo.jp/subway/schedule/
Japan Road Traffic Information Center	http://www.jartic.or.jp/
Haneda Airport (flight information)	http://jatns.tokyo-airport-bldg.co.jp/flight/
Narita Airport (flight information)	http://www.narita-airport.jp/jp/flight/

Transportation Information Twitter Accounts

Tokyo Metropolitan Government, Bureau of Transportation (Toei Subway, Toden Arakawa Line, Nippori-Toneri Liner)	@toeikotsu	Kyokyu Line operation information	@keikyu_official
		Seibu Railway operation information	@seiburailway
East Japan Railway Company	@JREast_official	Tokyu Line's service information	@tokyu_official
Odakyu Line Operations Status	@odakyuline_info	Rinkai Line official announcement	@twr_official
Keio Railway Operations Information	@keiodentetsu	Yurikamome's official announcement	@yurikamome_info
Keisei Railway Operations Information	@keiseirailway	Tama Monorail information	@tamamono_info

Tokyo Fire Department Life Safety Learning Centers

Ikebukuro Life Safety Learning Center	Address: 2-37-8 Nishi-Ikebukuro, Toshima-ku, Tokyo Telephone: 03-3590-6565 Access: 5 minute walk from Ikebukuro Station served by JR and other railways. Use the South, West or Metropolitan Exit. Hours: 9:00 a.m. – 5:00 p.m. Closed: Tuesdays and every third Wednesday (If either day is a national holiday, the center will be closed the following day.), end of the year/new year's holiday Admission: Free
Honjo Life Safety Learning Center	Address: 4-6-6 Yokokawa, Sumida-ku, Tokyo Telephone: 03-3621-0119 Access: 10 minute walk from JR Sobu Line Kinshicho Station North Exit or Tokyo Metro Hanzomon Line Kinshicho Station Exit No. 4, 10 minute walk from Keisei Oshiage Line Oshiage Station (also served by other railways) Exit B1. Hours: 9:00 a.m. – 5:00 p.m. Closed: Wednesdays and every third Thursday (If either day is a national holiday, the center will be closed the following day.), end of the year/new year's holiday Admission: Free
Tachikawa Life Safety Learning Center	Address: 1156-1 Izumi-cho, Tachikawa-shi, Tokyo Telephone: 042-521-1119 Access: Bus from JR Tachikawa Station North Exit (board at stop no. 1). Short walk from the Tachikawa Shobosho (Fire Department) bus stop. 15 minute walk from Takamatsu Station Tama Monorail. Hours: 9:00 a.m. – 5:00 p.m. Closed: Thursdays and every third Friday (If either day is a national holiday, the center will be closed the following day.), end of the year/new year's holiday Admission: Free

Please note that information may only be provided in Japanese on some of these sites and Twitter accounts.

Pictograms

JIS Z8210

Evacuation Center

People whose homes were destroyed or have collapsed due to an earthquake or other disaster and have no place to go are accepted here for a period of time. In addition, these facilities provide disaster-related information and distribute goods to people affected by the disaster.

JIS Z8210

Evacuation Area

Open areas such as large parks that have the amount of space needed to protect the lives of evacuees from the spread of fire caused by a major earthquake and other dangers.

Temporary Evacuation Area

Places where evacuees gather temporarily to grasp the situation prior to moving to the evacuation area. These are school yards, neighborhood parks, and other places with enough space to secure the safety of the people gathered there.

Temporary Shelter

A facility where people who are unable to return home following a disaster can temporarily stay. There are 200 metropolitan-owned facilities designated to serve as temporary shelters.

Support Stations

Facilities (convenience stores, fast food shops, casual restaurants, gas stations, and other establishments) that will support people who have become stranded following a disaster and are attempting to return home on foot. Support stations will provide road information, drinking water, toilet facilities, a place to rest, and other assistance.

JIS Z8210

Tsunami Evacuation Area

This sign indicates a safe location or elevated ground where people can evacuate to when a tsunami occurs.

JIS Z8210

Tsunami Evacuation Building

This sign indicates a reinforced concrete building that has at least three floors where people can evacuate to if there is no elevated ground nearby when a tsunami occurs.

Symbols for People Who Need Special Care in an Emergency

Help Mark

A mark used by people with conditions that are not outwardly apparent, such as a prosthetic limb or joint, internal medical condition, intractable disease, or the early stages of pregnancy. The mark is displayed to inform those around them of their need for special consideration.

Help Card

A card created to help those with disabilities or other conditions inform the people around them about their disability or condition when an emergency or disaster occurs. Information such as emergency contact numbers and details on the type of support they require is printed on the card.

International Symbol of Access

This symbol is the universal symbol that indicates a building, form of public transportation, etc., is accessible to people with disabilities. This symbol is not for wheelchair users only, but for all people with disabilities.

International Symbol of Access for Individuals Who Are Blind

Designated as the universal symbol by the World Blind Federation in 1984, this symbol is displayed on buildings, facilities, equipment, and other objects developed with special consideration for the safety and accessibility of the visually impaired. The symbol is used on crosswalk signals, voice guidance devices, international mail containing materials in braille, books, printed materials, etc.

Mark for the Hearing Impaired

This mark indicates that the holder has a hearing impairment, and is used in situations such as when requesting consideration with regard to how to communicate. It is also used at institutions such as local governments, hospitals, and banks to indicate that assistance is provided to people with hearing impairments.

Mark for Expectant Mothers

A mark displayed by expectant mothers to indicate the condition, especially in the early stages of pregnancy when it is not yet outwardly apparent.

Mark for Assistance Dogs

This mark is posted at the entrance to businesses that accept certified assistance dogs (guide dogs, service dogs, and hearing dogs) in accordance with the Act on Assistance Dogs for Physically Disabled Persons. Under the act, facilities used by a large number of people such as departments stores and restaurants are required to accept assistance dogs.

Ostomate Mark

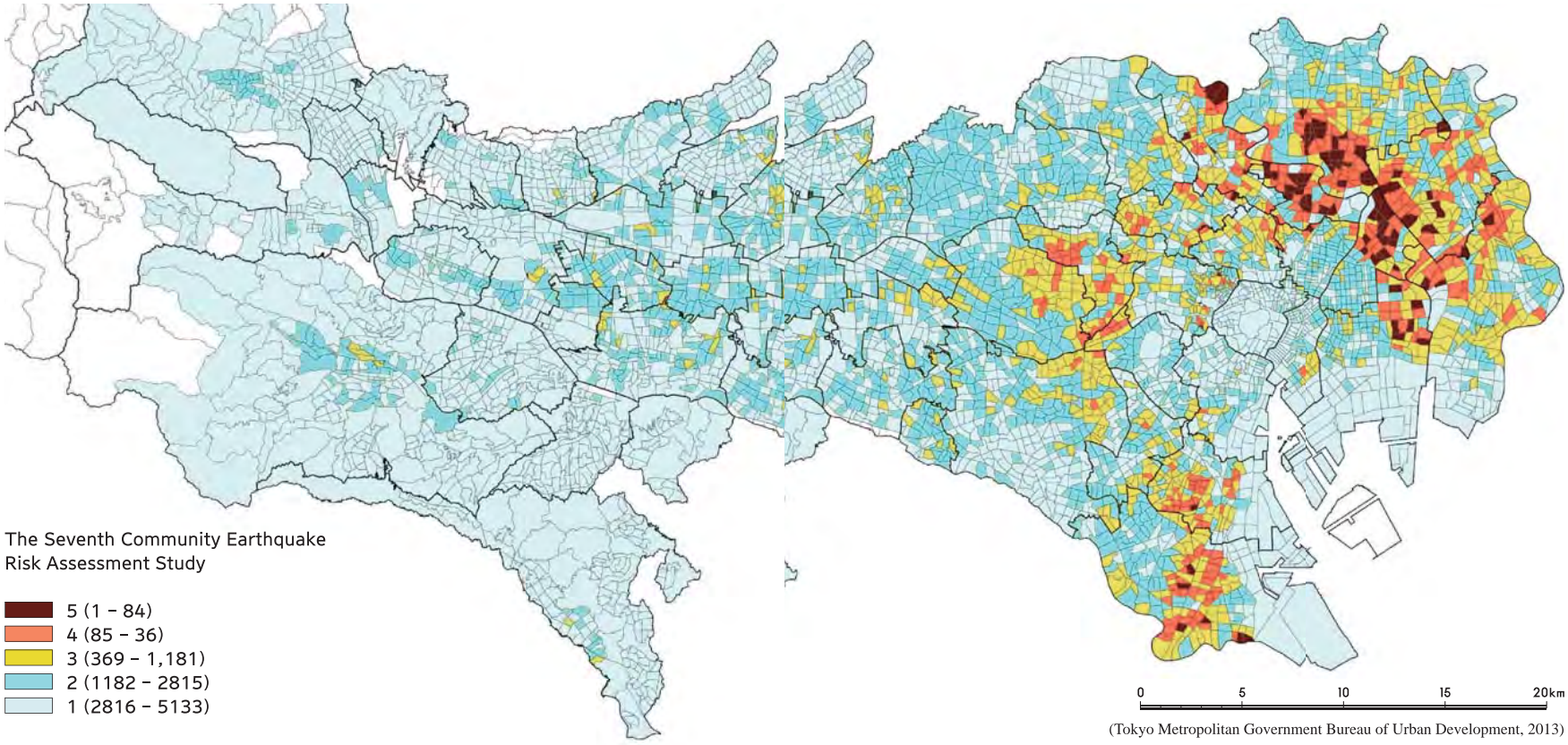
This symbol, representing an ostomate (someone who has an ostomy or an artificial bladder), is displayed to indicate that a facility has toilet facilities for ostomates, etc.

Heart Plus Mark

This mark is used to represent people with internal conditions that are not readily apparent to others such as those associated with the heart, respiratory functions, kidneys, bladder, rectum, small intestine, liver, and immune system.

Combined Risk in Light of Emergency Response Difficulty

**The map below was recreated based on data from the Tokyo Metropolitan Government Bureau of Urban Development using Color Urban Design.



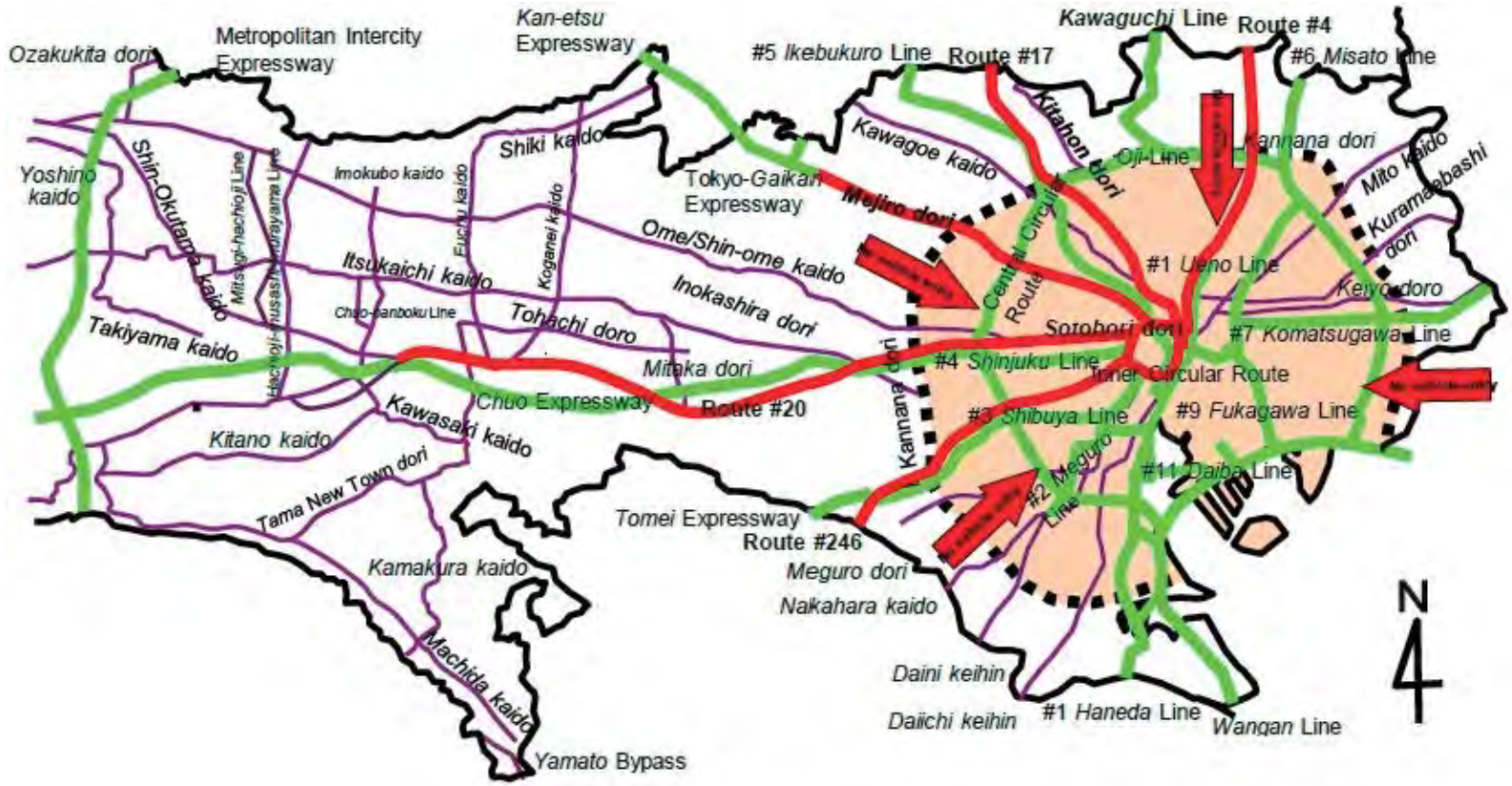
(Tokyo Metropolitan Government Bureau of Urban Development, 2013)

Combined risk ratings were determined by aggregating a community's building collapse risk ranking and fire risk ranking, and then ranking this sum. Communities with high combined risk need to develop measures tailored to the characteristics of each area. The "combined risk in light of emergency response difficulty" rating takes into account the difficulty of emergency response such as evacuation and fire/rescue activities in addition to overall combined risk. This data assesses the status of the development of roads that will serve important roles when a disaster strikes such as community roads and city-planned roads. The combined risk in light of emergency response difficulty is made available by the Tokyo Metropolitan Government on the following website:
http:www.toshiseibi.metro.tokyo.jp/bosai/chousa_6/home.htm

Traffic Restrictions Following a Major Earthquake

** The map below was recreated based on data from the Tokyo Metropolitan Police Department using Color Universal Design.

Regular roads to be designated as Routes for Authorized Emergency Vehicles
Expressways to be designated as Routes for Authorized Emergency Vehicles
Key road routes to be designated, if necessary, as Emergency Access Roads



Directly following a major earthquake, traffic restrictions (stage 1 restrictions) will be implemented in order to prevent danger on roads, as well as to ensure the smooth passage of emergency vehicles engaged in activities such as rescue and firefighting, based on the Road Traffic Act (Act No. 105 of 1960).
Disaster response routes for emergency vehicles are then secured (stage 2 restrictions) to ensure that emergency response can be carried out accurately and smoothly based on the Disaster Countermeasures Basic Act (Act No. 223 of 1961).

Furthermore, even when an earthquake strikes that does not qualify as a massive earthquake (an earthquake measuring a 6 lower and higher on the Japanese seismic intensity scale), traffic restrictions may be put into place based on the Road Traffic Act when an earthquake measuring a 5 upper occurs.
Tokyo Metropolitan Police Department
http://www.keishicho.metro.tokyo.jp/foreign/earthquake/english_270309.pdf

A Day in Tokyo

Births		(2013)
Deaths		(2013)
Average life span		(2010)
		(2010)
Successful employment		(FY2013)
Move out		(2014)
Move in		(2014)
Food expenditure per household with 2 or more members		(2013)
Gross regional product		(FY2012)
Marriages		(2013)
Divorces		(2013)
Number of books lent out by public libraries		(FY2013)

Number of traffic accidents		(2013)
Number of traffic accident fatalities		(2013)
Number of ambulance transports		(2013)
Number of fire outbreaks		(2013)
Number of fire trucks dispatched		(2013)
Number of emergency calls to the police		(2013)
Number of recorded crimes		(2013)
Number of crimes cleared		(2013)
Trash disposal (includes recyclable resources) per resident		(FY2012)
JR line passengers		(FY2013)
Lighting consumption per resident		(FY2013)

Figures are simple averages derived by dividing the figure for that year or fiscal year by the number of days in that year.
Lighting consumption is the amount of power consumed by households and stores for lighting and home appliances
Number of newly employed people indicates the number of people confirmed to have found a job through Hello Work.
Figures per resident are simple averages derived by dividing the total figure by that year's population
("Life and Statistics 2015," Bureau of General Affairs, Tokyo Metropolitan Government)

Tokyo's Ranking in Japan

Item		Tokyo	Japan	Rank	As of
Land/Climate	Area	2,189㎢	377,962 km2	45th	Oct. 1, 2013
Housing	Home ownership rate	45.8%	61.7%	47th	Oct. 1, 2013
	Total area per dwelling in an exclusively residential dwelling	63.54 m2	92.97 m2	47th	Oct. 1, 2013
Population and household	Total population (estimate)	13.3 million	127.298 million	1st	Oct. 1, 2013
	Foreign residents	407 thousand	2,066 thousand	1st	Dec. 31, 2013
	People moving in	432 thousand	2,405 thousand	1st	2014
	People moving out	356 thousand	2,405 thousand	1st	2014
	Total fertility rate	1.13	1.43	47th	2014
	Private households	6.38 million	51.84 million	1st	Oct. 1, 2010
	Average number of private households	2.03 people	2.42 people	47th	Oct. 1, 2010
Labor	Ratio of job openings to job seekers	1.57	1.09	---	2014 average
	Average monthly salary before deductions per person	463,833 yen	357,972 yen	---	2013 average
	Average monthly working hours per person	150.1 hours	149.3 hours	---	2014 average
	Unemployment rate	3.8%	3.6%	---	2013 average
Household budget	Monthly earned income per household	549.8 thousand yen	486.6 thousand yen	---	2013 average

Item		Tokyo	Japan	Rank	As of
Household expenditure	Monthly living expenditure per household	363.7 thousand	318.7 thousand	---	2013 average
Health care and environment	Number of hospitals	646	8,540	1st	Oct. 1, 2013
	Total area of natural parks	79,889 ha	5,431,321 ha	27th	March 31, 2014
Prices	Regional difference index of consumer prices	105.9	100	---	2013 average
Regional economy	Nominal gross regional product	91.9 trillion yen	472.6 trillion yen	---	FY 2012
Businesses	Number of private business establishments	627 thousand	5,454 thousand	1st	Feb. 1, 2012
	Number of people employed by private businesses	8.655 million	55.837 million	1st	Feb. 1, 2012
Agriculture, forestry and fisheries	Agricultural output	27.1 billion yen	8.6 trillion yen	47st	2012
Industry	Manufactured product shipments	7.9 trillion yen	292.1 trillion yen	13st	2013
Commercial and service industries	Yearly commodity sale	182.2 trillion yen	548.2 trillion yen	1st	2007
Finances	General account budget	6.7 trillion yen	95.9 trillion yen	---	FY 2014
Police and firefighting	Number of traffic accidents	42 thousand	629 thousand	4st	2013
	Number of recorded crimes	163 thousand	1,314 thousand	1st	2013
	Number of fire outbreaks	5,213	48,095	1st	2013
	Number of fire outbreaks per 10,000 residents	3.97	3.75	20th	2013

("Life and Statistics 2015," Bureau of General Affairs, Tokyo Metropolitan Government)

Let's get prepared !
外国人向け今やろう

LET'S GET PREPARED MARK

This manual contains valuable information on various types of disasters and how to protect yourself and your family when one strikes. The 10 most important steps to take immediately are outlined below. Make sure to refer to this list as you get prepared!

Hold a family meeting.

Divide responsibilities between family members in advance, such as who will be in charge of preventing a fire and who will secure an exit path.

Confirm the nearest evacuation area and evacuation center.

Review the locations of the evacuation areas and evacuation centers nearest to your home.

Register to receive alerts and useful information.

Register to receive Twitter Alerts and other useful information on disaster preparedness.

Make stockpiling items a part of your daily life

Ensure that you have ample stockpiles of water, food, and emergency supplies by buying a little more than you need and continuously replenishing items throughout the course of daily life.

Prepare an emergency bag.

Prepare an emergency bag that contains the minimum essentials needed for the time being after you evacuate.

Have important items ready to carry with you.

Keep passports, certificates, records, and other important documents in a plastic case with a fastener.

Check the layout of furniture in your home.

Ensure that furniture is arranged so that it will not topple over or slide across the floor, resulting in injury or blocking your escape path.

Stabilize furnishings in your home.

Stabilize the furniture and household appliances in all rooms of your home to prevent them from falling over or sliding across the floor.

Check the seismic resistance of your home.

Use the do-it-yourself seismic resistance checklist in this manual (p. 107) to check the seismic resistance of your home.

Participate in disaster prevention drills.

Enhance your awareness and disaster preparedness skills by participating in local disaster drills.

Helpful Phrases
非常時に使える英会話

WHEN A DISASTER STRIKES
災害発生時の行動

Q Where is the evacuation center?
避難所はどこですか?
(Hinanjo wa doko desuka?)

A The ABC Park/ABC Elementary School/ABC area just over there is serving as an evacuation center.
そこの近くにあるOO公園(OO小学校・OO地区) が避難場所になっています。
(Soko no chikaku ni aru XXX koen/XXX shogakko/XXX chiku ga hinanjyo ni natteimasu.)

Q I am looking for my family.
家族を探しています。
(Kazoku wo sagashiteimasu.)

A Please go to the evacuation center in the area where your family lived and ask the staff for information.
家族が住んでいたところの近くの避難所で、係の人に 聞いてください。(近くの避難所を案内)
(Kazoku ga sundeita tokoro no chikaku no hinanjo de kakari no hito ni kiitekudasai.)

Q Where is the evacuation center?
避難場所はどこですか?
(Hinanjo wa doko desuka?)

A I'll show you the way. Let's go together.
案内します。一緒に行きましょう。
(Annai shimasu. Issho ni ikimasho.)

Q Where should we go? Where is a safe place to go?
どこに逃げればいいですか? 安全な場所を教えて下さい。
(Doko ni nigereba iidesuka? Anzen na basho wo oshiete kudasai.)

A Do you have a map? You should evacuate here.
地図を持っていますか?あなたはそこに避難すべきです。(地図を見て案内)
(Chizu wo motteimasuka? Anata wa soko ni hinan subeki desu.)

Q What is the name of this place?
ここは、どこですか。
(Koko wa doko desu ka?)

A You are in XXX. You are near XXX. This is the XXX elementary school.
ここは、OO(OOの近く)です。
(Koko wa XXX desu. Koko wa XXX no chikaku desu.)

Q I need information in English.
英語の情報がほしいです。
(Eigo no joho ga hoshii desu.)

A Please try the NHK World website.
You will be able to get news in English and other languages.
NHK WORLDのサイトを見て下さい。英語と他の外国語でニュースを提供しています。
(NHK WORLD no site wo mite kudasai. Eigo to hoka no gaikokugo de nyuusu wo teikyo shiteimasu.)

Q When will transportation be back in service?
(電車・バス・空港)はいつ復旧しますか。
(Densha, basu, kuuko) wa itsu fukkyuu shimasuka?

A Information on transportation services (trains, buses, ships/ferries, flights) will be updated on TV and the radio.
電車(バス・船・飛行機)の情報は、テレビとラジオで お知らせしています。
(Densha, basu, fune, hikoki) no joho wa, terebi to rajio de oshiraseshiteimasu.)

Q When will roads be open again? Which roads are passable?
道路はいつから通れますか？ どこの道路が通れますか？
(Doro wa itsu tooremasuka? Doko no doro ga tooremasuka?)

A Route XX going from XX to XX is closed between XX and XX.
ＸＸからＸＸに向かうＸＸＸ号線は、ＸＸ~ＸＸの間は通れません。
(XX kara XX ni mukau XXX go-sen wa, XX~XX no aida tooremasen.)

Q Where can I get (food/water/a blanket)?
(食べ物・水・毛布)はどこで手に入りますか？
(Tabemono/mizu/mofu) wa doko de te ni hairimasuka?

A I asked the person in charge. Please wait.
係の人にお願いしたので待っていてください。
(Kakari no hito ni onegasishita node matteite kudasai.)

Q Where can I make an international call?
国際電話はどこでかけられますか？
(Kokusaidenwa wa dokode kakeraremasuka?)

A I will check. Please wait a moment.
調べるので待っていてください。
(Shiraberu node matteite kudasai.)

Start Preparing with Your Family Now

Confirm your evacuation center

Name of center

Map showing the route from home and where to meet up

Decide the place (the evacuation center, etc.) where your family will meet if the members are separated due to work, school, shopping, or other reasons when a disaster occurs. Use the Disaster Prevention Map and other information to select a safe place. It would be reassuring if you make the meeting place specific, such as near the jungle gym at a school playground or the bench at a park.

Details ➡ P. 115

Confirm your evacuation route

Evacuation route from home (1)

Evacuation route from home (2)

Walk through the evacuation route in advance. You should do it twice, at daytime and night, and check whether there are hazardous spots, as well as where you would be able to rest and use a toilet. It is important to check multiple routes to prepare for a case in which one of them will not be safe due to a fire or other reasons.

Details ➡ P. 040

Decide how to contact each other

Contact method

Decide in advance how your family will confirm each other's safety, such as the disaster emergency message dial, message board, and SNS. Share your contact information with relatives and friends far away. This could be helpful because even when telephone lines are congested within the area affected by a disaster, calls to and from other areas are sometimes easier to get through

Details ➡ P. 128

Decide each family member's role

Prepare emergency supplies of food and other items

Check the emergency bag

Check electricity, gas, and water

Check measures for preventing furniture from falling over

Other

Assign roles to each of your family members, such as who will be turning off the flame, who is in charge of the emergency bag, and who takes measures to prevent furniture from falling over. If everyone fulfills their roles, your family can act calmly without going into a panic.

Details ➡ P. 084-112

Personal Information

Name

Date of birth/Gender (age)

Blood type A B O AB Rh + , —

Allergy / Health problems

Medication

Address 〒

Phone number - -

Mobile number - -

School/Workplace 〒

- -

Emergency contact 〒

Family Information

Name

Date of birth / Gender (age)

Blood type A B O AB Rh + , —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Name

Date of birth / Gender (age)

Blood type A B O AB Rh + , —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Name

Date of birth / Gender (age)

Blood type A B O AB Rh + , —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Name

Date of birth / Gender (age)

Blood type A B O AB Rh + , —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Name

Date of birth / Gender (age)

Blood type A B O AB Rh + , —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Name

Date of birth / Gender (age)

Blood type A B O AB Rh + , —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Name

Date of birth / Gender (age)

Blood type A B O AB Rh +, —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Name

Date of birth / Gender (age)

Blood type A B O AB Rh +, —

Allergy / Health problems

Medication

Mobile number - -

School/Workplace 〒

Memo

Index of Glossary Terms

A

Act concerning the Measures for Protection of the People in Armed Attack Situations, etc.
A law enacted in 2004 with the aim of protecting the lives and properties of the citizens.
P. 164

Active fault
A fault that has repeatedly caused earthquakes since the prehistoric age, and is predicted to be active in the future.
P. 238

Advisory
An advisory is issued by the Japan Meteorological Agency when there is the risk that heavy rain, strong wind, etc. will cause a disaster.
PP. 145, 246

AED (automated external defibrillator)
A device that gives an electric shock to a person in cardiopulmonary arrest to restore the heart's ability to pump blood. Installed at public places such as railway stations and schools.
PP. 53, 177

Aerosol spray type fire extinguisher
A fire extinguisher that sprays a fire-extinguishing agent by gas pressure. Can be used handily at home. Useful for first response firefighting.
P. 110

Alluvium
A weak stratum that is relatively new, formed about 10,000 to 20,000 years ago or earlier. It is difficult to construct heavy buildings on alluvium.
P. 116

Area with steep slopes at risk of landslides
An area with a 30-degree or steeper slope where a landslide could cause damage to housing.
P. 116

Arterial bleeding
A type of bleeding in which bright red blood spurts out in rhythm with the pumping of the heart.
PP. 178, 263

B

Baiu stationary front
A stationary front that moves from south to north over the Japanese archipelago during the seasonal transition from spring to mid-summer.
P. 146

Biological agent
Bacteria, viruses, or poisonous substances produced by them, etc. used as weapons.
PP. 165, 167

Building collapse risk
The degree of risk that a building will collapse or lean because of an earthquake.
PP. 118, 278

C

Canal
An artificial channel to deliver water for agricultural and/or urban use.
P. 151

Capillary bleeding
Blood oozing out from capillary veins.
PP. 178, 263

Chemical agent
Sarin or other toxic chemicals that can be used as weapons in terrorist attacks, etc.
P. 167

Chest compression
Also called external cardiac massage, chest compressions are given with both hands near the heart to a person in cardiopulmonary arrest, in order to restore blood circulation.
P. 177

Commissioned welfare volunteer
A part-time local government employee commissioned by the ministerofhealth,labourandwelfare , who is tasked with providing consultation to local residents while placing himself/herself in their position, extending necessary assistance, and trying to enhance social welfare.
P. 124

Communications drill
A drill to practice communicating information about fires, rescue/relief, and earthquake damage properly to firefighting authorities, via telephone or in person.
P. 133

Cross-bracing
Steel bars installed in an X-shape to reinforce steel-frame buildings.
P. 113

Cumulonimbus
A massive cloud that develops vertically due to powerful upward air currents and can produce rain and lightning. With a height of more than 10 km, these clouds sometimes reach the stratosphere.
PP. 150, 245

D

Daily stockpile
Purchasing and storing extra supplies of food and other items that you use on a daily basis.
PP. 85, 92

Damage certificate
A certificate issued by municipalities on the degree of damage to dwellings, etc., caused by disasters such as earthquakes, floods, and wind.
P. 254

Direct pressure method
A method to stop bleeding where pressure is applied directly to the point of bleeding using your hand or fingers to stop the flow of blood.
PP. 179, 263

Disaster disability compensation money
In accordance with the law, compensation money will be paid to those who have become severely disabled due to the disaster (blindness in both eyes, constant need of nursing care, severance of both arms above the elbow joint, etc.).
P. 255

Disaster Emergency Message Dial
A service provided by Nippon Telegraph and Telephone Corp. (NTT). A disaster survivor can dial 171 and record a message, and those who wish to contact the person can listen to the message.
PP. 128, 226

Disaster map exercise
A type of disaster drill referred to as DIG ("Disaster" "Imagination" "Game").
P. 140

Disaster Message Board
A service provided by mobile phone carriers to enable people to confirm each other's safety via text messages. To use the service, visit the portal site of your mobile phone carrier.
PP. 128, 227

Disaster preparedness education
Teaching people knowledge needed to protect themselves in natural disasters, such as preparations and actions to take in a disaster.
PP. 135, 140

Disaster prevention map
In addition to showing areas expected to sustain damage when a disaster occurs, evacuation areas and routes, this map also includes disaster prevention agencies and other helpful information.
P. 161

防

Disaster reconstruction loan
A loan to support small and medium-sized companies that were affected by the disaster in rebuilding their business.
P. 261

Disaster relief fund
When a disaster occurs and the Disaster Relief Act is applied, these funds are used by the municipalities to offer low-interest loans to households that have been affected by the disaster, in order to help rebuild their lives.
P. 256

Disaster response goods and equipment
Equipment and tools used to prevent the spread of disaster.
P. 137

Disaster response routes for emergency vehicles
Major roads designated to serve as the main arteries for evacuation, rescue and firefighting activities, and the transport of emergency supplies when a disaster strikes. These roads will be closed to non-emergency vehicles.
PP. 33, 280

Disaster sympathy money
In accordance with the law, sympathy money will be paid to the families of those who lost their lives in the disaster.
P. 254

Disaster volunteers
Volunteers who support recovery and rebuilding following a disaster, such as an earthquake, tsunami, or a wind and flood disaster caused by a typhoon.
P. 266

Disorder of consciousness
A condition where a person becomes unable to properly respond to the people around him/her following trauma to the head, etc. Disorders range from the minor to the severe, including disorientation/confusion, drowsiness/somnolence, numbness, and coma.
P. 186

Drain cock
A valve for controlling the amount of water supply or drainage.
P. 191

Drill to prevent fire outbreaks
Training to prevent fire outbreaks when a disaster strikes.
P. 133

Dust
Fine powder consisting of dry particles that floats in the air.
P. 166

Dust goggles
Protective goggles that protect your eyes from smoke generated by a fire, volcanic ash, etc.
PP. 161, 163

Dust mask
Protective mask that prevents you from inhaling smoke generated by a fire, volcanic ash, etc.
PP. 161, 163

E

Earthquake directly hitting Tokyo
An earthquake directly hitting the National Capital Region that is predicted to occur within the next 30 years with a 70 percent probability.
PP. 15, 52, 68

Earthquake resistance
The degree to which a building or other structure can withstand an earthquake.
PP. 107, 118

Earthquake resistance standards
Standards ensuring that a building fulfills the minimum requirements for earthquake-resistant design.
PP. 24, 108

Earthquake-resistant shelter
A structure that can protect the bedroom or sleeping area even if the house collapses due to an earthquake.
P. 113

Earthquake-resistant wall
A wall of a building that can resist horizontal forces created by an earthquake, wind, etc.
P. 50

Electrical current leak
Electricity leaking out due to causes such as damaged wires and damaged insulation due to age.
PP. 110, 111

Emergency bag
A bag that contains the essential goods to take with you when you have to evacuate.
P. 90, 92

Emergency light
A light that automatically turns on in the event of a blackout.
P. 23

Emergency stockpile
Stocking supplies in preparation for emergencies.
PP. 55, 85, 93

Emergency Stockpile Day
The Tokyo Metropolitan Government has designated November 19 as Emergency Stockpile Day.
P. 55

Emergency temporary housing
Emergency housing built under the Disaster Relief Act. Provided to people who have no place to live because their homes have collapsed, burned down, or become uninhabitable for other reasons.
PP. 69, 259

Emergency vehicle (emergency car)
A vehicle used to respond to an emergency, such as for disaster relief.
PP. 39, 280

Emergency warning
An emergency warning is issued by the Japan Meteorological Agency when there is a very high risk of a severe disaster.
PP. 145, 247, 248

Ethanol
A type of alcohol. Volatile. Used for sterilizing and disinfecting, and also as fuel.
P. 65

Evacuation area
When an earthquake occurs causing a large-scale fire to spread, this is a place to evacuate to in order to protect yourself from the flames. Places such as large parks, areas rich with greenery, and fireproof building districts are designated as evacuation areas.
PP. 40, 120, 274

Evacuation center
A place that temporarily accommodates and provides shelter to those affected by a disaster, whose homes have collapsed, burned down, etc. Public facilities such as schools and community centers are designated as evacuation centers.
PP. 40, 56, 274

Evacuation drill
Training to learn your evacuation route and to safely evacuate without panicking.
P. 134

Evacuation hatch
A hatch equipped with hanging ladders for evacuation.
P. 48

Evacuation route
A route which one takes when evacuating.
PP. 21, 23, 95, 114, 119, 153, 161

Eyewall
A tall ring of dense cumulonimbus clouds surrounding the eye of a typhoon. This is where the strongest wind and rain of the storm occurs.
P. 245

F

Facebook
A social networking service that allows users to connect and interact with their real-world friends using their real names.
P. 43

Fall stationary front
A stationary front that moves from north to south over the Japanese archipelago during the seasonal transition from summer to fall.
P. 146

Fire risk
The degree of the risk of wide-area damage from the spread of fires breaking out due to an earthquake.
PP. 118, 278

Fire-safe area
An area where fireproofing has progressed and where there is no fear of large-scale spread of fires.
P. 120

First response firefighting drill
A drill to learn how to use a home-use fire extinguisher, standpipe, portable fire pump and other firefighting devices and equipment.
P. 132

First response firefighting
An emergency measure taken to extinguish a fire in its early stages when the flames have not yet reached the ceiling.
PP. 18, 46, 78, 188

Flood risk area map
A map showing areas that are likely to flood when there is a torrential downpour that greatly exceeds the flood control capacity of rivers and sewerage systems.
P. 148

Food poisoning
A condition caused by eating food contaminated by bacteria or a virus, or food that contains a poisonous or harmful substance.
P. 64

G

Ground fault circuit interrupter
A device that quickly shuts down the power after a current leak to prevent a disaster.
P. 110

Gutter
Ditches built along roads or railway tracks to drain water.
PP. 147, 148, 151

H

Hands-on training for disaster response
An event where participants can learn about disasters while enjoying hands-on training.
P. 135

Hazard lights
Lights used to the draw the attention of the drivers around you, especially of the car behind you.
P. 32

Hazard map
A map that contains information such as areas predicted to suffer damages, evacuation areas, and evacuation routes, for use in mitigating damages from a natural disaster and for disaster preparedness.
P. 119

Heat stroke
A condition that occurs when you have engaged in activities such as work and exercise under the blazing sun. Symptoms such as dehydration, seizures, and weakness appear, sometimes even leading to death.
PP. 65, 185, 194

Hello Work
A public employment security office. An administrative body that the Ministry of Health, Labour and Welfare established with the aim to secure stable employment opportunities for citizens.
PP. 70, 260

Hemorrhagic shock
A condition in which blood flow decreases due to internal or external bleeding, so that sufficient blood cannot be delivered to tissues and organs around the body.
P. 185

Household stockpile
Stocking food and daily items according to the family structure.
P. 88

Housing with a semi-basement
A house with space that is partially below the level of surrounding roads.
PP. 147, 151

I

Income tax casualty loss deduction
An income tax deduction you can receive when your home or household possessions have been damaged due to a natural disaster, fire, etc.
P. 257

Indirect pressure method
A method used to temporarily stop the flow of blood by pressing down on the artery between the injury and the heart, compressing it against the bone.
PP. 179, 263

Indoor fire hose
A fire hose installed indoors. Has highly effective water discharge capability and range.
P. 189

Infiltration inlet
A place where rainwater that has fallen on the grounds collects.
148

Inundation
Being flooded. A disaster in which a residential area or farmland is inundated due to rainfall that exceeds the drainage capacity of gutters or the sewerage system. This is called a flood disaster.
PP. 147, 148

Islands
A region with islands of various sizes. In Tokyo, there are the Izu Islands and Ogasawara Islands.
PP. 37, 117, 160

J

Jack
A device used to lift something, typically a car that needs a tire change.
P. 53

J-anpi
A free service that can be used from a computer, smartphone, mobile phone, etc., to check the safety of an individual by entering his/her phone number or name. In addition to safety information on the disaster message boards of mobile phone carriers, you can also access safety information collected by companies and organizations.
PP. 129, 272

L

Large-scale fire
A fire that can break out over a large area when an earthquake occurs. Such a fire is expected to result in many injuries and deaths.
P. 45

Lifeguard
A person with a license issued by the Japan Lifesaving Association, whose job is to prevent water accidents at places such as beaches where swimming is permitted.
P. 49

Lifeline
Infrastructure indispensable to daily life, such as electricity, water, gas and telephone services.
PP. 55, 84

Literacy
Knowledge about a certain field, and the ability to use such knowledge.
P. 172

Long-period ground motion
Earthquake-induced slow shaking with a period of a few seconds or more, which travels far from the earthquake focus.
PP. 97, 240

M

Magnitude
A unit for measuring energy from an earthquake.
P. 239

Micon-meter (intelligent gas meter)
A meter that shuts down the gas and displays a warning when a problem occurs with gas flow or pressure, or when an earthquake measuring a 5 upper on the Japanese seismic scale occurs.
P. 111

Mutual help
The concept of people in the same neighborhood helping each other in the event of a disaster to protect lives and the community.
P. 52

N

Neighborhood disaster response group
A group actively engaged in disaster preparedness activities designated by the Tokyo Metropolitan Government.
P. 138

No-rinse/non-residue soap
A special type of cleanser that enables you to keep clean with little to no water.
204

O

Oral rehydration solution
A mixture of salt and glucose dissolved in water, which is mainly used to treat dehydration.
P. 197

Outer band
Outer rainbands that form about 200 to 600 km from the center of the typhoon, and intermittently produce strong rain showers, thunderstorms, and at times, tornadoes.
P. 245

Overnight disaster drill at school
A drill conducted at school, which simulates evacuation life after a disaster, through activities such as preparing for sleep and preparing stockpiled food.
P. 131

P

Pandemic
A nationwide or worldwide outbreak of an infectious disease.
P. 170

Passive smoking
Inhaling secondhand smoke from cigarettes.
P. 63

People who need special care
The elderly, the disabled, infants, foreign nationals, and other people in need of special care.
PP. 58, 66

People who need special support in evacuating
If a disaster occurs or there is the threat of a disaster occurring, these people are in particular need of support to ensure they can evacuate safely and promptly, as it would be difficult for them to evacuate on their own.
P. 145

Physical protection drill
A drill to practice protecting yourself when an earthquake occurs. Activities include experiencing shaking on an earthquake simulator and training to protect yourself from falling objects.
P. 133

Portable fire pump
A fire pump equipped with an engine that can be lifted by hand. Placed at facilities used by fire authorities, volunteer fire corps, volunteer disaster response teams, etc.
PP. 132, 191

Prevailing westerlies
Winds that flow from west to east at high altitudes, in the middle latitudes of the northern hemisphere.
P. 244

Propane gas
Liquefied petroleum gas that is supplied from a tank installed at homes. City gas, on the other hand, is supplied through gas lines that run under roads.
P. 111

Public health center
A public agency that supports the health of local residents and sanitation.
PP. 171, 265

R

Radar and Nowcasts weather map for tornadoes
A service of the Japan Meteorological Agency which analyzes 10 km zones, and forecasts the probability of a tornado developing, up to one hour ahead (10 to 60 min ahead).
P. 157

Radio (emergency radio)
A radio (emergency radio) that not only receives general broadcasts, but can automatically receive the local government's disaster radio broadcasts.
P. 42

Rebuilding life
After the foundation of their lives have been destroyed by a disaster, residents rebuild their daily lives.
P. 70

Rescue and relief drill
A drill that teaches how to use everyday tools to rescue people who were unable to escape in time, due to building collapse, etc.
P. 134

Resonance
A phenomenon where the natural frequency of a building and the frequency of earthquake waves coincide, causing the shaking to intensify greatly.
P. 240

S

Safety confirmation services
Services for confirming the safety of your family and friends in the event of a disaster, such as the Disaster Emergency Message Dial provided by Nippon Telegraph and Telephone Corp. (NTT) and the Disaster Message Boards provided by mobile phone carriers.
P. 272

Sandbag
A cloth bag filled with sand that is used as a material for civil engineering applications, which can also be used to prevent flood damage.
PP. 147, 148

Secondary disaster
A disaster caused by the initial disaster, such as a fire following an earthquake.
PP. 45, 95

Secondary evacuation center (welfare evacuation center)
An evacuation center that accepts people who would have difficulty living in a regular evacuation center, and need special care.
P. 56

Sediment disaster hazard area map
A map showing areas where there is a risk of a sediment disaster.
153

Seismic damper
Equipment that absorbs earthquake energy and mitigates damage to the building.
P. 113

Self-help
Protecting yourself and your family by yourself, without help from others.
P. 17

Separation panel

A panel that separates an apartment unit's veranda or balcony from that of the adjacent unit. It can be broken through during an emergency to allow escape to the unit next door.

P. 48

Smart key
A system for locking and unlocking a door, or starting an engine, without a mechanical key.

P. 32

Smartphone app
Web applications that can be used on smartphones. There are many disaster preparedness apps, including Internet radio apps, disaster alerts and earthquake information apps.

P. 129

SNS (social networking service)
A service for providing social networking through exchanges via the Internet, such as Twitter, Facebook, and LINE.

PP. 43, 47

Spindle driver
A tool used to open and close the water outlet of a fire hydrant.

P. 190

Spiral band
A strong rainband surrounding the eye of a typhoon. Shaped like a spiral around the eye.

P. 245

Splint
An object used to temporarily immobilize a fracture, joint, etc.

P. 180

Stabilizing adjuster
An implement used to stabilize copiers, multifunction printers and other machines to prevent them from moving.

P. 105

Standpipe
A firefighting instrument that can be used by local residents. The standpipe is inserted into a fire hydrant or drain valve on the road, and a hose is attached to conduct firefighting activities.

PP. 132, 190

Staying at home
Staying at home, as opposed to going to an evacuation center,whenthebuildingwhereyoulivewas notdamagedbythedisasterandthereisnodangeroftsuna miorfire.

PP. 41, 54

Storm surge
Abnormally high levels of ocean water due to gales and low pressures coinciding with high tides cause the water to surge toward the land.

P. 146

Stranded commuters and others
People who become stranded due to an earthquake or disaster that occurs when they are at a place other than their home.

P. 127

Submerged
Farmland, crops, roads, cars, etc., in areas where there usually is no water, becoming covered with water due to heavy rain or river flooding.

PP. 146, 147, 149, 151

Support fund for disaster victims to rebuild their lives
Support fund provided to households that suffered significant damage to their livelihoods through the disaster, such as total destruction of their residences.

P. 255

Symbolic disaster remains
A structure that passes down the memories and lessons of a disaster to future generations, such as destroyed buildings. Some are restored and preserved, while others are dismantled.

P. 72

T

"Takidashi"
To provide meals and other food free of charge when a disaster occurs, etc.

P. 64

Temporary evacuation area
An area to which you evacuate temporarily when evacuation orders are given, or when the danger of fire approaches. Temporary evacuation areas include local elementary schools, junior high schools, and parks.

PP. 40, 115, 274

Temporary shelter
A facility that temporarily accommodates people who have trouble returning home due to a disaster.

P. 274

TFD Disaster Volunteers
Volunteers who work at the scene of disaster who have pre-registered at a Tokyo Fire Department fire station, within whose jurisdiction their home, place of work, or school is located.

P. 267

Tokyo Metropolitan Government Disaster Prevention Map
A map provided on the TMG disaster prevention website. You can find the location of disaster prevention facilities, support stations for people returning home following a disaster, and other relevant facilities.

P. 128

Tokyo Metropolitan Government Disaster Prevention Twitter account
The Tokyo Metropolitan Government's Twitter account on disaster prevention. By activating Twitter Alerts, important tweets issued by public agencies and emergency response organizations will appear on your home timeline.

PP. 129, 271

Tokyo Metropolitan Government Disaster Prevention Website
A website that provides information on preparing for a disaster in normal times, as well as information on the situation when a disaster strikes.

PP. 128, 270

Tokyo Metropolitan Seismic Certification Mark
A mark, issued by the Tokyo Metropolitan Government that shows the safety of the building against earthquakes so that Tokyo residents can feel safe using buildings.

P. 108

Triage
The process of determining the level of urgency and severity of injuries/illnesses, and assigning priority for treatment and transport out of the area.

P. 264

Tsunami evacuation building (evacuation tower)
A facility where residents and visitors can immediately evacuate to when a tsunami occurs.

P. 49, 275

Twitter
A communication tool with which messages of up to 140 letters can be exchanged via the Internet.

PP. 43, 129, 271

Twitter Alert
By activating TMG Disaster Prevention Twitter Alerts, important tweets issued by public agencies and emergency response organizations will appear on your home timeline.

PP. 129, 271

U

Underpass
A road below ground level at a grade-separated crossing. Prone to becoming submerged during torrential rain.

P. 151

Urban flooding
A type of flooding that occurs in urban areas where much of the ground is covered by concrete or asphalt pavement. It occurs when a massive amount of water flows into the sewerage system or river.

P. 150

V

Venous bleeding
A type of bleeding in which dark red blood flows out continuously from a vein.
PP. 178, 263

Volcanic ash fall
Volcanic ash released by an eruption that falls to the ground.
P. 163

Volunteer fire corps
A non-regular group made up of members with other occupations that undertakes firefighting activities in the community.
P. 139

W

Warning
A warning is issued when the Japan Meteorological Agency has determined that there is a risk of a severe disaster.
PP. 145, 246, 248

Water bag
Plastic bags, such as trash bags, filled with water and used for flood prevention. When sandbags are not available, water bags can be used as a substitute.
P. 148

Water supply spot
An emergency water supply tank, water purification plant, water supply station, etc. where people can obtain water when the water supply is interrupted due to a major earthquake.
P. 55

WHO (World Health Organization)
A United Nations body that was established with the objective of attaining the highest possible level of health for all people.
P. 170

Wind and flood disaster
A disaster caused by heavy rain and/or strong wind.
P. 144

Workshop
A lesson in which a group of people takes part in activities, experiences things first hand, and interacts with each other so as to share their knowledge and/or create something.
PP. 228, 232

things through group interaction

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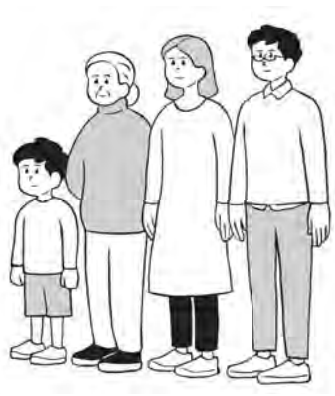

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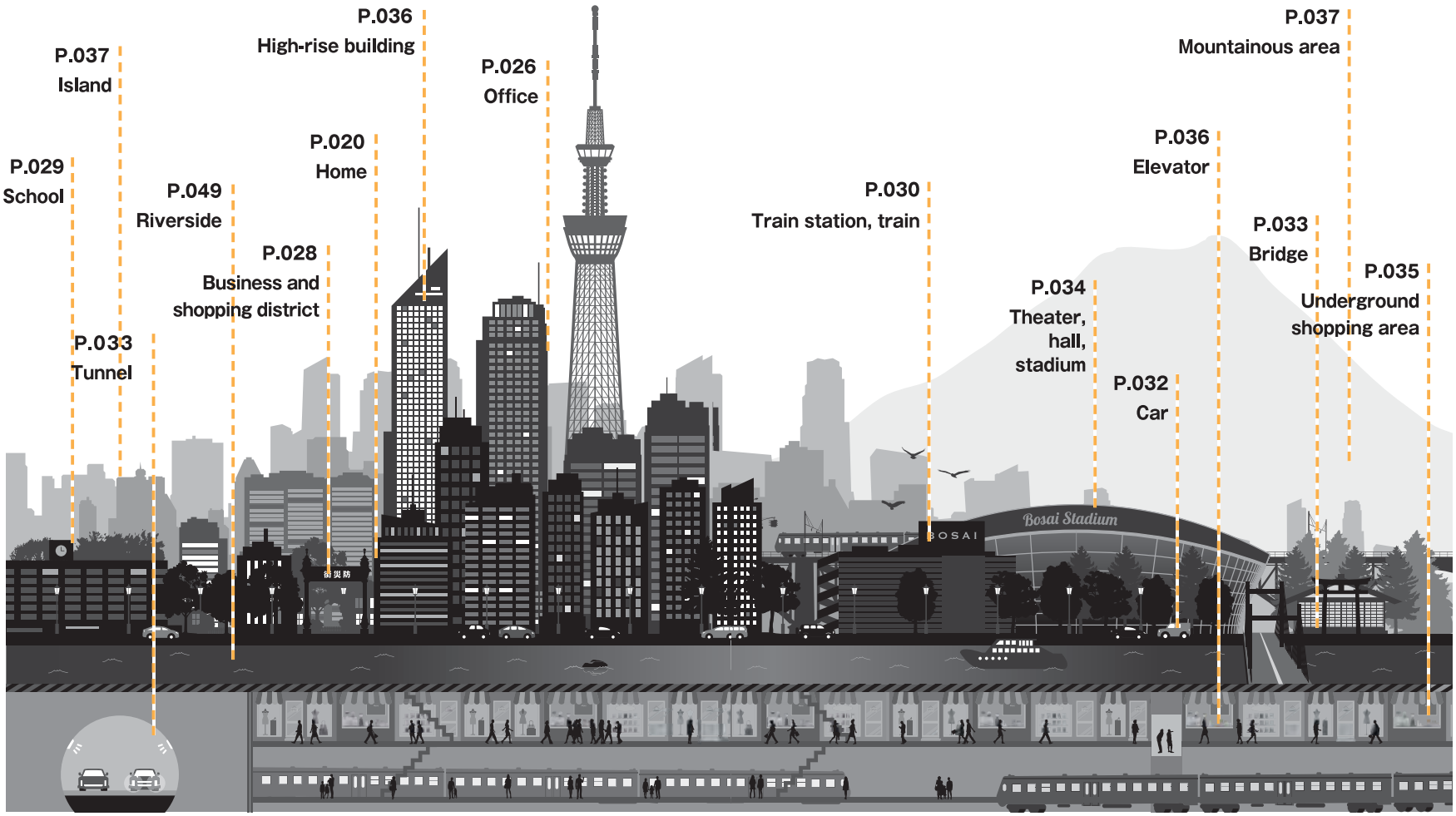
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